

The Diabetic Retinopathy Barometer Report

# United Kingdom



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For detailed information regarding methodology and limitations of the study please refer to the DR Barometer Global Results Report which can be found at [DRBarometer.com](https://DRBarometer.com)



# Introduction

## Global Study

The International Federation on Ageing, the International Diabetes Federation and the International Agency for the Prevention of Blindness undertook a comprehensive, two-phase, multi-country study to investigate the global and specific country issues surrounding diabetic eye disease (DED) primarily, diabetic retinopathy (DR) and diabetic macular edema (DME).

This report describes the specific findings from information gathered from adults with diabetes and health care professionals in United Kingdom.

All people with type 1 and type 2 diabetes are at risk of developing DR, which can lead to loss of vision and eventually to blindness. DME is a type of DR that is particularly associated with vision loss. DR is preventable by prompt diagnosis and appropriate management of diabetes.

Vision loss is preventable if DR is identified in its early stages by screening, as effective treatments are now available to prevent progression. Despite the serious risks of DR, little has been published regarding the global awareness of the risks and prevention and effective management of diabetes associated vision impairment.

This research was made possible with support from Bayer AG. Bayer has funded and facilitated this research, acted as an advisor and will assist in the dissemination of the research findings.

## Goal

The DR Barometer Study sought, in broad terms, to assess the awareness of, and access and barriers to diabetes management, including screening for DED and timely treatment.

This new information from forty-one countries is vital to understanding the barriers to improved outcomes and the actions required to overcome such barriers.

Initiatives that address the gaps in the care pathway are essential to preventing unnecessary blindness and visual impairment so as to enable people with diabetes to maintain their health and ensure that the contribution that they can make to family and community are not compromised.

## Background

The DR Barometer study used a mixed methods approach. Phase I was a qualitative study comprising 120 semi-structured interviews with a small sample of people with diabetes (n = 9 per country) and health care professionals (n = 6 per country) in each of eight countries: Germany, Saudi Arabia, Japan, Romania, Mexico, Argentina, Uganda, and Bangladesh. The countries were purposively selected for variation across income level and region, as delineated by the World Health Organization (WHO) and into World Bank Income Groups (WBIGs).

Phase II was a multi-country quantitative study conducted in 41 countries to investigate the current level of awareness of the risk of DR and of the need for prevention, screening and management to prevent vision loss. The study also sought to better understand the nature of health services and supports available, and the social and economic burden of the disease through a systematic literature review.

In the quantitative component of the study both adults with diabetes (patients) and health care professionals (providers) were surveyed. The patient survey consisted of 46 questions divided into four sections covering awareness and knowledge, current care for diabetes and eye complications, screening and treatment of DR and DME, and quality of life.

The provider survey comprised 43 questions covering provider and practice characteristics, and specific information from ophthalmologists. Globally, the patient survey had a total of 4,340 respondents and the provider survey had 2,329 respondents.

Respondents from each country were grouped into regions as defined by the World Health Organization (WHO) and into World Bank Income Groups (WBIGs).

## Study Populations

The people with diabetes participating in the patient survey were self-selected, predominantly from patient organisations. Therefore, this group comprises people who are more likely to be engaged and motivated in the management of their diabetes. Likewise, the provider respondents were self-selected and the same caution should be applied when interpreting the results.

Even though the sample is not representative of the broader population of people with diabetes and health care professionals the findings illustrate important trends, and highlight areas of concern.

The results from this survey provide new evidence reflecting concerns from the voices of thousands of patients and health care professionals around the world. This study provides a rich resource for generating unique insights into the real-life experiences of people living with diabetes, and as such is a powerful tool to help improve the lives of current and future generations of people with diabetes.

For the purpose of understanding the impact of the progression of DED responses to the patient survey, beyond “all respondents”, are reported by the three following subgroups:

- Without DED: people with diabetes without any reported form of DED
- With DED: people with diabetes with reported DED but not DME
- With DME: people with diabetes with reported DED and DME

As reported by 4,340 adults with diabetes who responded to the survey, 20% reported to have been diagnosed with DED and a further 7.6% with DME.

Of the health care professionals who responded to the survey (n = 2,329), 37% were ophthalmologists, 17% were diabetes specialist providers and 16% were primary care providers. The remaining respondents were optometrists, nurses, health educators or other professionals.



# Introduction

## United Kingdom Study

### Demographic Characteristics<sup>1,2</sup>

United Kingdom is estimated to be the third most populous country in the European Union and fifth most populous country in Europe with a population of approximately 65.5 million. According to most recent statistics, it is estimated that both the population under the age of 15 years and over the age of 65 years is approximately 18%.

Unlike many countries of the European Union, the United Kingdom's population is expected to increase. However, the population distribution will change in a way that the sub-population for those 65 years or older will increase and those 14 years and younger will decrease. By 2050, 25% of the total population will be over the age of 65 years.

The ageing process will be particularly reflected by the number of adults aged 80 years and over. In 2015, this sub group represented 5% of the total population (3 million); in 2050, this is expected to constitute 10% (7million) of the population. Every tenth person in the United Kingdom is likely to be aged 80 years or over by 2050.

### Diabetes Populations<sup>3</sup>

There are 415 million people living with diabetes and more than 59.8 million people are in the European Region. By 2040 this number is expected to rise to 71.1 million.

Fifty-six countries comprise the European Region with diverse populations ranging from Norway, the Russian Federation, Turkey and Iceland. While the European Region has the second-lowest age-adjusted comparative diabetes prevalence rate of any the regions

of the International Diabetes Federation (after the Africa Region) there are still many countries with relatively high diabetes prevalence rates.

United Kingdom has over 2.8 million (2,499.3-3,940.1±) adults living with diabetes, which accounts for some 5% of people living with diabetes in this region. It is important to note that the United Kingdom is the 9th top country in the world for diabetes-related health expenditure at \$13 billion USD and it will continue to be in the top 10 countries for diabetes-related health expenditure in 2040 at an estimated \$14 billion USD.

Diabetes national prevalence in United Kingdom (20 -79 years) is 6.2% (5.4-8.5±) and diabetes age-adjusted comparative prevalence is 4.7% (4.1-6.9±).

Deaths attributed to diabetes in United Kingdom in 2015 were 22,788, which accounts to ~4% of the diabetes related death experienced in this region. The estimated number of undiagnosed cases was some 1.0 million (1,295.2-2,041.7±).

### Study Populations: United Kingdom

As reported by 134 respondents with diabetes in United Kingdom, 31% were diagnosed with DED and a further 4.5% with DME.

Seventy-one health care professionals completed the survey in United Kingdom. Of these, 12 were diabetes specialist providers (17%), 20 were ophthalmologists (28%), and two were primary care providers (2.8%). The remaining respondents were either optometrists, nurses, health educators or other types of professionals.

# The DR Barometer Study: United Kingdom Overview

The DR Barometer study was conducted in 41 countries. In the UK 134 adults with diabetes and 71 health care professionals provided new information about the experiences of living with, managing and treating diabetes, DR and DME.

# 30%

of patients said that **long wait times for an appointment** were a barrier to eye exams



# 12%

of all providers **did not have written protocols/guidelines** for detection and management of diabetes-related vision loss available

**DR:** Diabetic Retinopathy

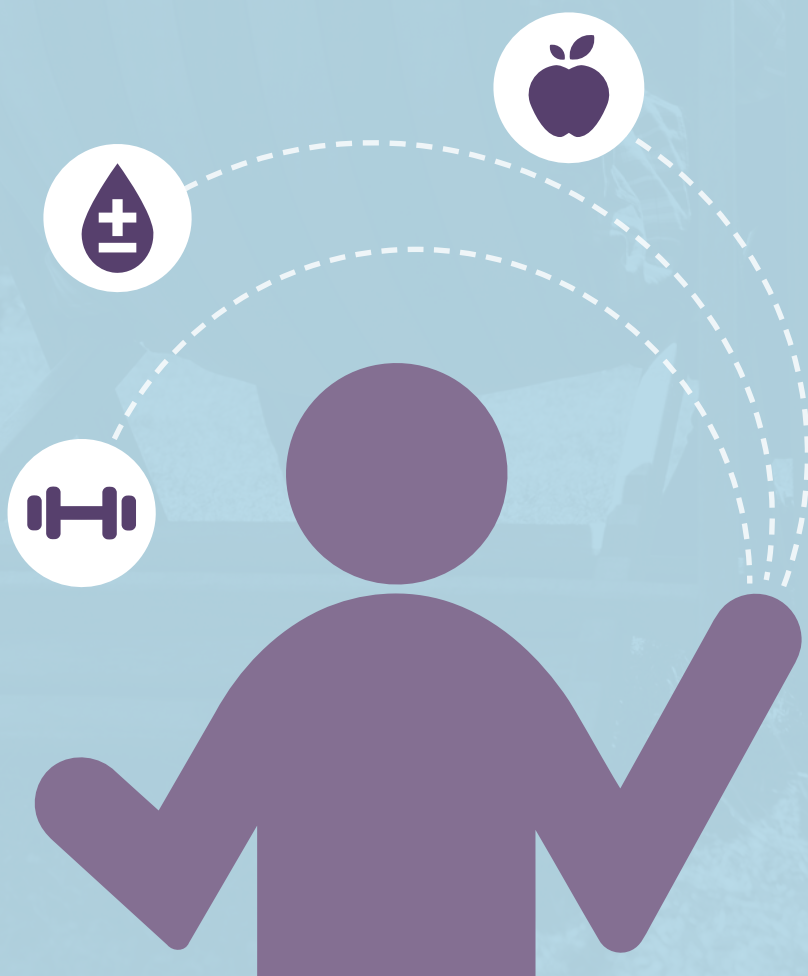
**DME:** Diabetic Macular Edema

[DRBarometer.com](http://DRBarometer.com)



# 14%

of respondents said their vision impairment due to DR or DME made it **difficult to manage their diabetes**





55%

of patients with vision loss due to DR or DME said that their condition made everyday activities, **such as driving**, working and completing basic household tasks difficult and in some cases impossible



20%

of those with DME experienced days of **poor physical and mental health**



29%

of patients either **never discussed eye complications with their doctor** or did so only after the onset of symptoms



8%

of ophthalmologists **had not received specific training** in the treatment and diagnosis of DR and or DME





# United Kingdom

## DR Barometer Findings:

### Adults with Diabetes

#### Key Demographic Characteristics

One hundred and thirty-four adults with diabetes completed the patients' survey in United Kingdom: 66% were female and 34% were male. Eighty-two percent lived in an urban setting and 18% in a non-urban setting (see Appendix Table 4.2).

The education levels of all respondents were as follows: 0.9% did not complete primary school, 0.9% were educated to a primary school level, 22% to a secondary school level, 39% to a college/university level and 38% to a graduate or post-graduate level (see Appendix Table 4.3).

Fifty-two percent of all respondents were in paid employment, 25% were retired and 12% were not working (see Appendix Table 4.4).

Most respondents (45%) were aged between 40 and 59 years (25% were 18-39 years, 28% were 60-79 years and 1.5% were 80 years and over). Seventy percent were of traditional working age (18- 59 years) (see Table 1).

Of the respondents in the United Kingdom, 56% had been diagnosed with type 1 diabetes and 42% with type 2 diabetes. A further 2.2% of respondents were either unsure of or did not know their type of diabetes (see Appendix Table 2.1).

Thirty-one percent of respondents had been diagnosed with DED and a further 4.5% (n=6) with DME.

Five percent of those surveyed were diagnosed with diabetes within the last year, 1 - 5 years ago (18%), 6 - 10 years ago (15%), 11 - 15 years ago (17%), 16 - 20 years ago (9.9%) and 21 years ago or more (35%) (see Appendix Table 2.2).

Amongst the 18 to 39-year-olds, 88% had type 1 and 8.8% had type 2 diabetes. In the 40-59 age group 50% had type 1 and 48% had type 2 diabetes, 40% of 60-79-year-olds had type 1 diabetes and 58% had type 2.

In people aged 18-39 years, 32% had DED and no one had DME. In those aged 40-59 years 30% had DED and 8.3% had DME and for people aged 60-79 years to 29% had DED and 2.6% had DME.

An important trend noted in the findings was that generally, the longer the time since diagnoses the greater the likelihood to be diagnosed with DED.

In those diagnosed with diabetes within the last year 14% had DED, this increased to 21% of those 6-10 years since diagnosis. The proportion with DED increased again to 32% (11-15 years since diagnosis) and further to 46% for those diagnosed 16-20 years ago. Fifty percent of those surveyed diagnosed more than 21 years had DED.

While most (70%) respondents reported that their diabetes was well controlled there were almost one in three that felt that this was not the case. For those who it was controlled, 35% had DED, 6.3% had DME, and for those where their condition was not well-controlled 44% had DED and no one had DME.

**Table 1: Summary of key characteristics of adults with diabetes**

Group	Subgroup	All Respondents	Type 1 diabetes	Type 2 diabetes	With DED	With DME
<b>All respondents</b>		134 (100.0%)	75 (56.0%)	56 (41.8%)	42 (31.3%)	6 (4.5%)
<b>Gender</b>	Male	36 (34.3%)	18 (50.0%)	18 (50.0%)	12 (33.3%)	2 (5.6%)
	Female	69 (65.7%)	48 (69.6%)	21 (30.4%)	29 (42.0%)	3 (4.3%)
	Total Missing	29	9	17	1	1
<b>Age</b>	18-39 yrs.	34 (25.4%)	30 (88.2%)	3 (8.8%)	11 (32.4%)	0 (0.0%)
	40-59 yrs.	60 (44.8%)	30 (50.0%)	29 (48.3%)	18 (30.0%)	5 (8.3%)
	60-79 yrs.	38 (28.4%)	15 (39.5%)	22 (57.9%)	11 (28.9%)	1 (2.6%)
	80 yrs. plus	2 (1.5%)	0 (0.0%)	2 (100.0%)	2 (100.0%)	0 (0.0%)
<b>Time since diagnosis</b>	Within the last year	7 (5.3%)	1 (14.3%)	5 (71.4%)	1 (14.3%)	0 (0.0%)
	1 - 5 yrs.	24 (18.3%)	9 (37.5%)	15 (62.5%)	1 (4.2%)	2 (8.3%)
	6 - 10 yrs.	19 (14.5%)	5 (26.3%)	14 (73.7%)	4 (21.1%)	0 (0.0%)
	11 - 15 yrs.	22 (16.8%)	12 (54.5%)	10 (45.5%)	7 (31.8%)	0 (0.0%)
	16 - 20 yrs.	13 (9.9%)	7 (53.8%)	6 (46.2%)	6 (46.2%)	0 (0.0%)
	21 yrs. plus	46 (35.1%)	41 (89.1%)	5 (10.9%)	23 (50.0%)	4 (8.7%)
	Total Missing	3	0	1	0	0
<b>Control of Diabetes</b>	Controlled	80 (69.6%)	48 (60.0%)	32 (40.0%)	28 (35.0%)	5 (6.3%)
	Not controlled	32 (27.8%)	22 (68.8%)	10 (31.3%)	14 (43.8%)	0 (0.0%)
	Don't know/ Not sure	3 (2.6%)	1 (33.3%)	2 (66.7%)	0 (0.0%)	1 (33.3%)
	Total Missing	19	4	12	0	0

NB [1]: Percentages for All Respondents category are calculated based on their respective group. All categories are calculated as row percentages.

NB [2]: Diabetes control is based on the respondents' perception of their own control. Diabetes control terms were grouped as follows; Controlled includes patients who selected 'Very Well' and 'Well'. Not Controlled includes patients who selected 'Not very well' and 'Not well at all'.

NB [3]: DED = respondents with DED = "Yes" minus respondents with DME= "Yes".

NB [4]: DME = respondents with DME = "Yes".

NB [5]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

## Knowledge and Management of Diabetes

Ninety-five percent of those surveyed saw a health care professional for their diabetes, with 56% seeing a diabetes specialist (average number of visits was 2.7 times per year) and 23% seeing a general/family doctor (average number of visits was 3 times per year) (see Appendix Table 2.3.1 and 2.3.2).

People were informed about their condition through a variety of channels. Eighty-six percent received information from a doctor or nurse, 65% from the internet and 63% from a diabetes organisation or other health organisation (see Table 2 and Appendix Table 2.4).

**Table 2: Source of information regarding diabetes**

Information Source	All Respondents (n=125)
Doctor or nurse	108 (86.4%)
Internet	81 (64.8%)
Diabetes organisation or other health organisation	79 (63.2%)
Nutritionist or dietician	55 (44.0%)
Health educator	37 (29.6%)
Social media (e.g. Facebook, Twitter, blogs)	36 (28.8%)
TV/Radio/Newspaper/Magazines	20 (16.0%)
Family/Friends/Neighbours	18 (14.4%)
Pharmacist	16 (12.8%)

A range of strategies was used by respondents to manage their diabetes. For those with type 1 diabetes, apart from insulin, 37% managed their diabetes with diet, 30% with exercise and 11% with oral medicine. Of the respondents with type 2 diabetes, 82% reported that they managed their condition with oral medicine, 71% with diet, 39% with exercise, and 31% with insulin.

Sixteen percent of respondents were enrolled in a diabetes management programme and of these 83% said the programme included information on education on the importance of screening for diabetic eye complications (see Appendix Table 2.6).

The nature and frequency of tests that people with diabetes experienced included blood glucose checks and eye checks. For those who had eye checks (93%) these occurred at less than 6 months (50%), 6 - 12 months (37%) and greater than 12 months (6%) (see Appendix Table 2.7).

The main challenges in controlling diabetes cited by respondents were: it is too hard to eat the right things (37%), long wait times for an appointment to see their doctor or specialist (29%), there were too many other things to do (29%), the person don't want to think about having diabetes (23%) and the health services which were needed were not available (13%) (see Appendix Table 2.9).

Free or low cost medicines or monitoring materials (73%), support from family or friends (49%), health education and information (48%), coordination of healthcare and services by a professional (40%) and support groups (29%) were identified as important to improving the management of their diabetes (see Appendix Table 2.10).



## Nature and Information about Complications

Eighty-eight percent of respondents were aware of vision loss and believed other complications, such as amputation (86%), neuropathy (84%), foot ulcers (77%) and cardiovascular disease/stroke (74%) were associated with diabetes (see Appendix Table 2.11).

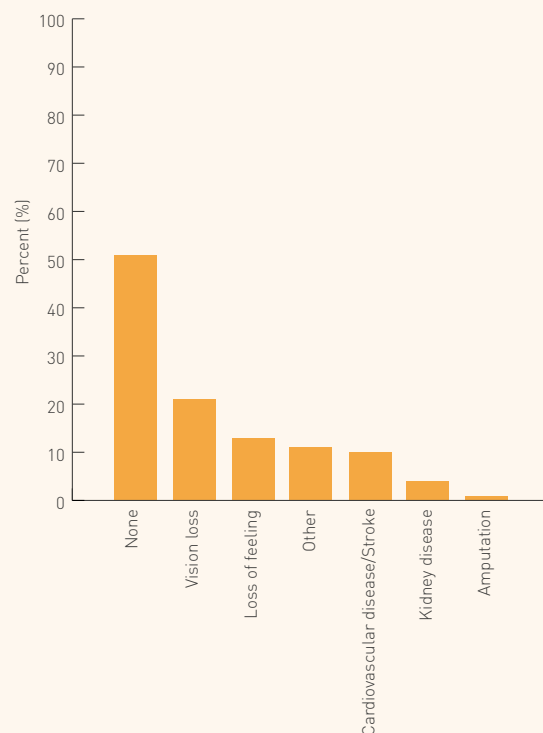
Patients were most concerned about vision loss (52%), cardiovascular disease/stroke (15%), amputation (8.9%), kidney disease (8.9%) and foot ulcers (3.6%) (see Appendix Table 2.12).

Fifty-one percent of those surveyed said that they had no complications of diabetes. However, of those who did have complications 22% had vision loss, neuropathy (18%), cardiovascular disease/stroke (10%), kidney disease (5.6%) and amputation (0.9%) (see Figure 1 and Appendix Table 2.13).

Over two-thirds of people with DED (62%) and DME (67%) had complications with their condition (see Table 3).

Aside from vision loss, there was an increase in the frequency of people with DED experiencing complications compared with those without DED. The frequency of neuropathy increased from 11% in those without DED to 31% with DED, as with the reporting of cardiovascular disease increasing from 6.5% for those without DED to 18% with DED.

**Figure 1: Presence of complications**



**Table 3: Presence of complications without DED, with DED or DME**

Complication	Without (n=62)	With DED (n=39)	With DME (n=6)
Any	24 (38.7%)	24 (61.5%)	4 (66.7%)
Vision loss	8 (12.9%)	14 (35.9%)	2 (33.3%)
Loss of feeling in hands or toes (neuropathy)	7 (11.3%)	12 (30.8%)	0 (0.0%)
Cardiovascular disease/Stroke	4 (6.5%)	7 (17.9%)	0 (0.0%)
Kidney disease	1 (1.6%)	5 (12.8%)	0 (0.0%)
Amputation	0 (0.0%)	1 (2.6%)	0 (0.0%)
Other	3 (4.8%)	10 (25.6%)	0 (0.0%)
None	38 (61.3%)	15 (38.5%)	2 (33.3%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

NB [4]: Percentages within groups are calculated from non-missing data for that question.

NB [5]: Not all responses have been presented in this table, but have been included under "Any". Please see Appendix Table EXP1 for the full list of responses.

## Information about Diabetic Eye Disease and Diabetic Macular Edema

Seventy-nine percent of respondents stated that eye complications were discussed with their health care professionals. Notwithstanding this nearly one in every three patients (29%) either never discussed them eye complications with them (16%) or discussions only took place when symptoms arose (13%). The frequency of regular discussions varied from every visit (19%), multiple times a year (14%) and once a year (34%) (see Appendix Table 2.14).

Nearly all patients (94%) reported that they did what they could to prevent vision problems (e.g. get routine screenings, visit specialists) yet 14% thought that vision problems were a normal part of ageing and 6.3% made no special effort to have a preventative approach to their eye health (see Appendix Table 2.15).

Seventy-nine percent of all respondents had received information about DR and DME with the doctor or nurse being the most common source (59%) (see Appendix Table 3.9).

**Table 4: Source of information about DR and DME**

Source	All Respondents (n=106)
Doctor/Nurse	62 (58.5%)
Diabetes organisation or other health organisation	45 (42.5%)
Internet	33 (31.1%)
Health educator	19 (17.9%)
Family/Friends/Neighbours	4 (3.8%)
TV/Radio/Newspaper/Magazines	4 (3.8%)
Other	1 (0.9%)
None of the above	22 (20.8%)

NB [1]: Not all respondents answered all questions in the survey; percentages are calculated from non-missing responses to the survey question.

## Screening for Diabetic Eye Disease

Most (93%) respondents reported having an eye exam for DED, with 94% having the exam within the last year and a further 5.9% more than one year ago but less than two years ago (see Appendix Table 3.2). Two-thirds of respondents were aware of government sponsored screening programmes for DED (see Appendix Table 3.1).

While 95% of those surveyed thought they should have their eyes examined for DED once a year there were smaller numbers of respondents who thought that testing should happen every two years (see Appendix Table 3.4).

The biggest barriers to eye exams were long wait times for an appointment (30%), the fear of treatment and / or the results (30%) and long wait times on the day of the visit (18%) (see Table 5 and Appendix Table 3.5).

**Table 5: Barriers to eye examinations**

Identified Barriers	All Respondents (n=77)
Long wait time for appointment	23 (29.9%)
Fear of treatment/results	23 (29.9%)
Long wait time on the day of the visit	14 (18.2%)
Referral process is complicated or takes too long	9 (11.7%)
Too many other things to do or worry about	9 (11.7%)
Burden on my family/friends	8 (10.4%)
Limited access to diabetes specialists	8 (10.4%)
They are expensive	6 (7.8%)
Don't know much about my condition	3 (3.9%)
Eye exams are not available near my home	2 (2.6%)
Recommended treatments for eye problems are not available	2 (2.6%)
I'm not likely to have eye complications	1 (1.3%)
Clinics are too small or lack necessary equipment/staff	1 (1.3%)
Other	19 (24.7%)



## Treatment of Diabetic Eye Disease and Diabetic Macular Edema

Treatment was assessed separately in people with DED and in those with DME. Those with DED (29%) all received laser treatment which was ongoing for one of the respondents. Over two-thirds had completed treatment and 83% of this group felt that treatment had been successful and their vision had either improved (42%) or stayed the same (42%) (see Table 6).

For the twenty-eight respondents (68%) with DED who had not received treatment, the most common reason was that their doctor did not recommend treatment.

All patients with DME (n=5) had received treatment, that being laser, and most felt that the treatment had been successful and either their vision had improved (40%) or stayed the same (40%).

There was a strong preference by all those with DME to have a proactive approach in the treatment pathway to prevent further vision loss rather than a reactive approach once further vision loss occurred (see Appendix Table 3.8).

**Table 6: Treatment characteristics of patients with DED and DME**

Question	Response	With DED (n=41)	With DME (n=5)
Have you had any treatment for diabetic eye disease?	Yes	12 (29.3%)	5 (100.0%)
	No	28 (68.3%)	0 (0.0%)
	Don't know/ Not sure	1 (2.4%)	0 (0.0%)
What treatment did you receive?	Laser	12 (100.0%)	4 (80.0%)
	Anti-VEGF	1 (8.3%)	1 (20.0%)
	Surgery	3 (25.0%)	1 (20.0%)
	Other	1 (8.3%)	1 (20.0%)
Did you complete the treatment?	Yes	8 (66.7%)	1 (20.0%)
	Still receiving treatment	4 (33.3%)	3 (60.0%)
	Don't know/ Not sure	0 (0.0%)	1 (20.0%)
	Don't know/ Not sure	1 (2.2%)	0 (0.0%)
Do you feel that the treatment worked?	Yes, and vision improved	5 (41.7%)	2 (40.0%)
	Yes, but vision stayed the same	5 (41.7%)	2 (40.0%)
	No	1 (8.3%)	0 (0.0%)
	Still waiting to know	1 (8.3%)	0 (0.0%)
	Don't know/ Not sure	0 (0.0%)	1 (20.0%)
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	25 (89.3%)	0 (0.0%)
	Treatment would not be effective	1 (3.6%)	0 (0.0%)
	I'm too busy	1 (3.6%)	0 (0.0%)
	I'm fearful of treatment	1 (3.6%)	0 (0.0%)
	Other	3 (10.7%)	0 (0.0%)

NB [1]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [2]: DME = respondents with DME = "Yes".

NB [3]: Not all respondents answered all questions in the survey; percentages are calculated from non-missing responses to the survey question.

NB [4]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

## Impact of Diabetic Eye Disease and Diabetic Macular Edema

Almost half of those diagnosed with DED or DME said that their vision was affected (6.5% significantly, 41% slightly) (see Appendix Table 3.6).

Fifty-four percent of these s reported vision issues that impacted their daily lives in various ways such as difficulty experienced in driving a vehicle (36%), social interactions with family/friends (18%), undertaking household responsibilities, such as cooking or cleaning (14%), leisure activities/exercise (14%), managing their diabetes (14%), working or keeping a job (9.1%) and travelling (4.5%) (see Table 7).

**Table 7: Activities affected through vision impairment and loss**

	<b>All Respondents (n=22)</b>
Driving (a car/vehicle)	8 (36.4%)
Social interactions with family/friends	4 (18.2%)
Household responsibilities, such as cooking or cleaning	3 (13.6%)
Leisure activities/exercise	3 (13.6%)
Managing my diabetes	3 (13.6%)
Work or keeping a job	2 (9.1%)
Travelling	1 (4.5%)
Other	6 (27.3%)
None	10 (45.5%)

Fifty-six percent those with DED and 67% with DME were in paid employment compared with 48% of respondents without DED (see Table 8). Patients with vision complications reported difficulties with work or keeping a job (9.1%) and 15% of those with DED 15% (n=6) were not working.

Seventy-three percent of all those surveyed did not receive assistance from the government while 19% received medical assistance (see Appendix Table 4.5). Twenty-four of respondents without DED received assistance from the government as did 34% of those with DED. No one with DME received government assistance.

Eighty-eight percent of respondents said they had no trouble paying for food at any time during the past year (see Appendix Table 4.6). Twenty-five percent said that their access to health care was affected, and for 16% it was affected by the place they lived (see Appendix Table 4.7).

Fifty-five percent of respondents said they worried about their health, 14% about family while 8.6% were not worried about any of the items in the survey (see Appendix Table 4.8).

**Table 8: Socio-economic profile of patients without DED, with DED or DME**

Question	Response	Without DED (n=59)	With DED (n=41)	With DME (n=6)
Are you currently working?	Working for pay	28 (47.5%)	23 (56.1%)	4 (66.7%)
	Working without pay at home (e.g. housework, farming)	2 (3.4%)	1 (2.4%)	0 (0.0%)
	Volunteering	5 (8.5%)	1 (2.4%)	0 (0.0%)
	Retired	15 (25.4%)	10 (24.4%)	1 (16.7%)
	Student	3 (5.1%)	0 (0.0%)	0 (0.0%)
	Not working	6 (10.2%)	6 (14.6%)	1 (16.7%)
Question	Response	Without DED (n=59)	With DED (n=41)	With DME (n=5)
Do you receive assistance from the government?	Income assistance	5 (8.5%)	7 (17.1%)	0 (0.0%)
	Medical assistance	9 (15.3%)	11 (26.8%)	0 (0.0%)
	Food assistance	1 (1.7%)	0 (0.0%)	0 (0.0%)
	Housing assistance	5 (8.5%)	2 (4.9%)	0 (0.0%)
	Pension assistance	3 (5.1%)	3 (7.3%)	0 (0.0%)
	None of the above	45 (76.3%)	27 (65.9%)	5 (100.0%)
Question	Response	Without DED (n=59)	With DED (n=41)	With DME (n=6)
Did you have trouble paying for food at any time during the past year?	Yes	8 (13.6%)	5 (12.2%)	0 (0.0%)
	No	51 (86.4%)	36 (87.8%)	6 (100.0%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

NB [4]: Not all respondents answered all questions in the survey; percentages are calculated from non-missing responses to the survey question

NB [5]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

## Self-reported Quality of Life

The CDC HRQOL-4 Core Modules of the “Healthy Days Measure” was used to capture information on self-reported quality of life, based on the number of unhealthy days within the last 30 days from when the survey was taken. The reported health status varied depending on whether respondents had been diagnosed with DED or DME (see Table 9.).

Forty-four percent of people with DED and without DED, and 17% with DME reported that their health as poor While reported health was reasonably consistent whether the respondent had DED or not, there was a 13% increase in the activity limitation days between those without DED and those with DED. DED significantly impacted on a person’s functional ability to undertake activities.

Compared with 29% of those without DED, 17% of people with DME and 35% of people with DED experienced limitations to their daily activities as a result of poor health. Where health impacted daily activities, the primary limitations were diabetes, walking problems and back or neck problems.

People living with DED and DME had a higher proportion for some impairments. Of note were the potential mobility challenges manifest through walking problems, back and neck problems, stroke and arthritis. These patients have complex comorbidities that require careful management across the health and social care system (see Appendix 5.5).

**Table 9: Self-reported healthy days of patients without DED, with DED or DME**

Health Status	Without DED	With DED	With DME
Self-rated health: Good	31 (56.4%)	23 (56.1%)	5 (83.3%)
Self-rated health: Poor	24 (43.6%)	18 (43.9%)	1 (16.7%)
Physically unhealthy days	27 (57.4%)	18 (50.0%)	0 (0.0%)
Mentally unhealthy days	21 (44.7%)	17 (50.0%)	1 (20.0%)
Unhealthy days	35 (72.9%)	25 (71.4%)	1 (20.0%)
Activity limitation days	15 (39.5%)	13 (52.0%)	1 (100.0%)

NB [1]: Without DED = respondents who did not select “Yes” for both DED and DME.

NB [2]: DED = respondents with DED = “Yes” minus respondents with DME = “Yes”.

NB [3]: DME = respondents with DME = “Yes”.

NB [4]: Not all respondents answered all questions in the survey; percentages are calculated from non-missing responses to the survey question.

NB [5]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.



# United Kingdom DR Barometer Findings: Health Care Professionals

## Key Demographic Characteristics

There were 71 health care professionals who answered at least one of the survey questions in United Kingdom. Of these, two were primary care providers (2.8%), 12 were diabetes specialist providers (17%) and 20 were ophthalmologists (28%). The remaining respondents were optometrists, nurses, health educators or other professionals (see Appendix PT 1.3).

In this section of the report, data from health care professionals as a whole and then the ophthalmologist subgroup will be reported.

Health care professionals as a group had been practicing for an average of 15 years, with the ophthalmologist group practicing for an average of 14 years (see Appendix PT 1.5).

Health care professionals were well educated (70% with graduate or advanced degree); 47% were female and 53% male; and, the largest proportion (34%) were aged 30 - 39 years with a further 26% in the 40-49 and 50-59 age groups (see Table 10 Appendix and PT 3.1).

**Table 10: Summary of key characteristics of health care professionals**

Group	Subgroup	All Respondents	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist
<b>All respondents</b>		71 (100.0%)	2 (2.8%)	12 (16.9%)	20 (28.2%)
<b>Age group</b>	18 - 29 yrs.	4 (8.0%)	0 (0.0%)	0 (0.0%)	1 (6.3%)
	30 - 39 yrs.	17 (34.0%)	1 (50.0%)	3 (37.5%)	3 (18.8%)
	40 - 49 yrs.	13 (26.0%)	1 (50.0%)	3 (37.5%)	5 (31.3%)
	50 - 59 yrs.	13 (26.0%)	0 (0.0%)	2 (25.0%)	6 (37.5%)
	60 - 69 yrs.	3 (6.0%)	0 (0.0%)	0 (0.0%)	1 (6.3%)
<b>Gender</b>	Female	23 (46.9%)	0 (0.0%)	4 (50.0%)	7 (43.8%)
	Male	26 (53.1%)	2 (100.0%)	4 (50.0%)	9 (56.3%)
<b>Education</b>	Secondary School	1 (2.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	College/University	14 (28.0%)	0 (0.0%)	2 (25.0%)	2 (12.5%)
	Graduate or advanced degree (e.g. PhD, MD, etc.)	35 (70.0%)	2 (100.0%)	6 (75.0%)	14 (87.5%)

NB [1]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

## Clinical Practice Characteristics

Thirty-five percent of all providers had their main practice setting in an eye clinic/practice (44%) and for ophthalmologists only the settings were hospital (63%), and eye clinic/practice (37%) (see Appendix PT 2.1). Ninety-one percent of health care professionals worked in an urban setting (see Appendix PT 2.2).

Most health care professionals worked in the government sector (62%) (see Appendix PT 2.3) and ophthalmologists worked mainly in the government (95%) and non-profit sectors (see Appendix PT 2.3).

The health care professionals said that 79% of patients do not pay for services, 18% pay out-of-pocket (full fees) for services and 13% pay through insurance for services. The pattern was similar for ophthalmologists, where 94% of patients don't pay for services and 5.9% pay through insurance for services (see Appendix PT 2.7).

On average all providers saw 96 patients per week and on average 45% of these had diabetes. Similarly ophthalmologists saw an average 92 patients per week and 42% had diabetes (see Appendix PT 2.6).

For all health care professionals, the average waiting time for an appointment was most commonly more than 1 week but less than 1 month (32%), or more than 1 month but less than 2 months (20%) (see Appendix PT 2.5).

For an appointment with an ophthalmologist it was usually more than 1 month but less than 2 months in 35% of practices but for a further 35% of practices, the wait time was more than 2 months but less than 3 months.

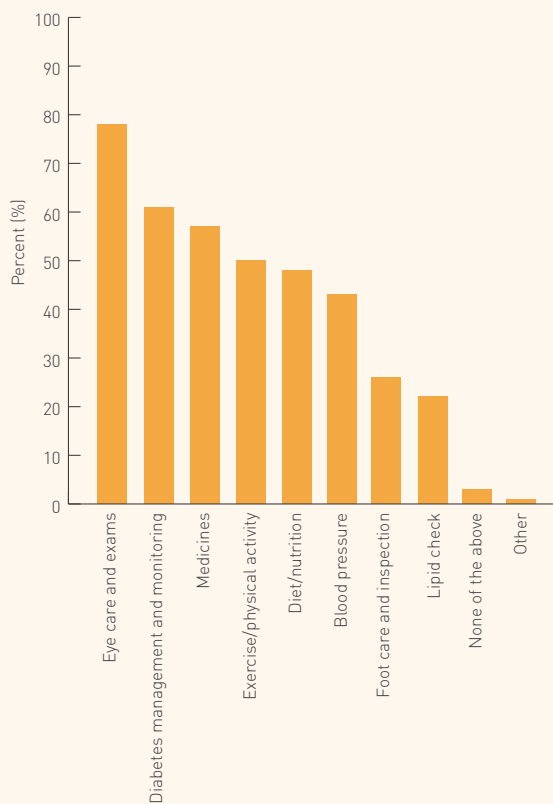
**Table 11: Average wait times to schedule an appointment**

Wait Time Intervals	All Respondents (n=56)	Ophthalmologist (n=17)
Less than 1 week	8 (14.3%)	1 (5.9%)
More than 1 week but less than 1 month	18 (32.1%)	2 (11.8%)
More than 1 month but less than 2 months	11 (19.6%)	6 (35.3%)
More than 2 months but less than 3 months	9 (16.1%)	6 (35.3%)
More than 3 months but less than 6 months	1 (1.8%)	1 (5.9%)
Six or more months	2 (3.6%)	1 (5.9%)
Do not take appointments	4 (7.1%)	0 (0.0%)
Don't know/Not sure	3 (5.4%)	0 (0.0%)

## Patient Education Information

A wide range of topics related to diabetes and its management were addressed by the health care professionals in a routine visit (see Figure 2 and Appendix PT 2.10).

**Figure 2: Health care topics discussed with patients during a routine visit**



Health care professionals stated that written information about diabetes is available yet the adequacy of that related to eye complications varies.

Fifty-nine percent of all providers reported that they had sufficient information about eye complications, 22% said the information on eye complications and diabetes was not sufficient and 2% said there was no such information. Overall 9.8% of those surveyed had no written information (see Table 12 and Appendix PT 2.11).

Most ophthalmologists (88%) had written information about diabetes and potential eye complications and 5.9% had information on diabetes but information on eye complications was not sufficient. Six percent of ophthalmologists said there was no written information available at all.

## Guidelines and Protocols

Seventy percent of providers and 69% of ophthalmologists had written protocols for the management of diabetes which were used by staff. However, 20% had no protocols (see Appendix PT 2.12).

With respect to the management of diabetes-related vision issues 74% of health care professionals and 94% of ophthalmologists had written protocols and these were used by staff but for some 4% the protocols were not used by staff. Twelve percent of providers did not have protocols on the management of diabetes-related vision issues available (see Table 12 and Appendix PT 2.13).

**Table 12: Availability and use of information and protocols**

Question	Response	All Respondents (n=51)	Ophthalmologist (n=17)
Is there written information about diabetes available for patients in your main practice?	Yes, and information on eye complications is sufficient	30 (58.8%)	15 (88.2%)
	Yes, but information on eye complications is not sufficient	11 (21.6%)	1 (5.9%)
	Yes, but no information on eye complications is included	1 (2.0%)	0 (0.0%)
	No written information is available for patients	5 (9.8%)	1 (5.9%)
	Don't know/Not sure	4 (7.8%)	0 (0.0%)
Question	Response	All Respondents (n=50)	Ophthalmologist (n=16)
Do you have written protocols/guidelines for detection and management of diabetes-related vision issue available in your main practice?	Yes, available and used by staff	37 (74.0%)	15 (93.8%)
	Yes, available but not used by staff	2 (4.0%)	1 (6.3%)
	Not available	6 (12.0%)	0 (0.0%)
	Don't know/Not sure	5 (10.0%)	0 (0.0%)

NB [1]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

## Screening Protocols and Barriers in the Care Pathway

Timing for the initial eye exam for persons with diabetes varied depending upon the type of diabetes as reported by all providers.

For those with type 1 diabetes 59% of all providers reported that the initial eye exam should occur at time of the diagnosis of diabetes. For patients with type 2 diabetes 86% of all providers recommended an eye exam at time of diagnosis (see Appendix PT 2.14).

Overall, eighty-two percent of health care professionals and 75% of ophthalmologists reported that follow-up eye examinations were conducted every year (see Appendix PT 2.15). Most ophthalmologists (69%) and health care professionals (78%) screen patients for DR (see Appendix PT 2.16).

Across all health care professionals, 82% reported that they send appointment reminders and 10% do not (see Appendix PT 2.19). Eighty-nine percent of the health care professionals and 88% of ophthalmologists shared information to optimise patient care management (see Appendix PT 2.20).

The most common patient characteristics influencing the referral process for eye complications for health professionals and ophthalmologists respectively were: diabetes duration (56%) (50%), high glucose levels (46%) (38%) and presence of comorbidities such as hypertension (50%) (50%) and the patient's age (40%) (31%) (see Appendix PT 2.17).

As reported by health care professionals, the major barriers to optimising eye health faced by patients with diabetes were competing responsibilities and priorities (48%), a lack of knowledge and/or awareness (44%) and the patient's fear of the treatment and / or results (40%) (see Appendix PT 2.18). Ophthalmologists like health care professionals reported similar such barriers (see Table 13).



**Table 13: Major barriers to optimising eye health**

<b>Response</b>	<b>All Respondents (n=48)</b>	<b>Ophthalmologists (n=16)</b>
Lack of knowledge and/or awareness	21 (43.8%)	10 (62.5%)
Patients have competing responsibilities and priorities	23 (47.9%)	9 (56.3%)
Patients fear of treatment/results	19 (39.6%)	8 (50.0%)
Patients feel eye complications are unlikely	18 (37.5%)	7 (43.8%)
Referral process	11 (22.9%)	6 (37.5%)
Patients feel eye exams are not important	18 (37.5%)	5 (31.3%)
Cost of care	6 (12.5%)	3 (18.8%)
Proximity to care	7 (14.6%)	3 (18.8%)
Long wait time for appointment	7 (14.6%)	3 (18.8%)
Long wait time on the day of visit	4 (8.3%)	3 (18.8%)
Patients feel they are a burden on family/friends	6 (12.5%)	3 (18.8%)
Clinic too small or lack necessary equipment/staff	5 (10.4%)	3 (18.8%)
Limited access to diabetes specialists	5 (10.4%)	2 (12.5%)
Recommended treatments are not available	2 (4.2%)	1 (6.3%)
Limited access to eye specialists	2 (4.2%)	1 (6.3%)
Other	2 (4.2%)	0 (0.0%)

# United Kingdom

## DR Barometer Findings:

### Ophthalmologists

#### Screening

There were twelve ophthalmologists who answered at least one of the supplementary questions (see Appendix PT 4.1 and PT 4.14). On average 46% of patients seen by the ophthalmologists had DR and 31% DME (see Appendix PT 4.1 and PT 4.2).

The most common waiting time for a screening for DED was more than one week but less than one month (36%) with 29% stating more than one month but less than two months (see Appendix PT 4.3). Thirty-six percent of ophthalmologists reported a wait time of more than one week but less than one month, 29% (n=4) reported a wait time of more than one month but less than two months (see Appendix PT 4.4).

#### Treatment and Challenges

Ninety-two percent of ophthalmologists personally administer treatment for DR (see Appendix PT 4.6). The most common factors influencing how ophthalmologists treat patients with DR or DME are: duration of diabetes (46%), the presence of comorbidities such as hypertension (36%) and high glucose levels (36%) (see Appendix PT 4.7).

The most common outreach venues for screening for DED were mobile screening centres (33%), health fairs for people with diabetes (8.3%) and vision centres (8.3%) (see Appendix PT 4.13).

Sixty-seven percent of ophthalmologists reported that they screen patients for DR based on retinal photo. Additionally 58% use fundoscopy through dilated pupils and 33% use optical coherence tomography. Eighty-three percent said that they treat DR and DME based on both visual and anatomical outcomes (see Appendix PT 4.8 and PT 4.9).

Sixty-seven percent (n=8) of ophthalmologists said that most patients present “in time” for screening, 25% (n=3) reported that patients present when visual problems have already occurred and 8.3% (n=1) said that patients present too late for effective treatment (see Appendix PT 4.10) although the sample is notably very small.

Ninety-two percent of ophthalmologists had received specific training on the treatment and diagnosis of DR and or DME. Seventy-three percent had training within the past year and 27% five or more years ago (see Appendix PT 4.11). Fifty percent would be interested in online education and certification on DME, angiogenesis and anti-VEGF therapies (see Appendix PT 4.12).

Ophthalmologists said that the greatest challenges for improving patient outcomes in DED were a limited access to patient education on DR and DME (50%, n=6), complex and sometime inadequate referral pathways (42%, n=5), and the fact that the multi-disciplinary team integration was poor (42%, n=5) (see Table 14 and PT 4.14).

**Table 14: Challenges for improving patient outcomes in DED**

Question	Response	Ophthalmologist (n=12)
What do you perceive to be the greatest challenges for improving patient outcomes in diabetic eye disease?	Limited access to patient education on diabetic retinopathy and diabetic macular edema	6 (50.0%)
	Referral pathways	5 (41.7%)
	Multi-disciplinary team integration is poor	5 (41.7%)
	Late diagnosis	4 (33.3%)
	No universal guidelines on referral/screening	3 (25.0%)
	Reimbursement/restrictions on approved therapy	2 (16.7%)
	No universal guidelines on how to treat	1 (8.3%)
	No universal guideline on when to treat	1 (8.3%)
	Government/insurance not able to cover patient costs	1 (8.3%)
	Ineffective screening services	1 (8.3%)
	Other	3 (25.0%)

# United Kingdom DR Barometer Summary

In United Kingdom, 134 adults with diabetes and 71 health care professionals have provided insight about their experiences of living with, managing and treating diabetes, DR and DME.

The results of the DR Barometer Study, United Kingdom were intended to improve the level of awareness around diabetes and eye complications, access and barriers to diabetes management, including screening for DED and DME and timely treatment.

The United Kingdom has reached a significant demographic milestone which will impact the society for many decades to come. It is the fifth most populous country in Europe with a population of approximately 65.5 million. Unlike many countries in Europe, the nation's population is expected to increase yet the sub-population for those 65 years or older will increase and those 14 years and younger will decrease. By 2050, 25% of the total population will be over the age of 65 years.

Alongside the demographic changes, the prevalence of people with diabetes is climbing rapidly. Today the United Kingdom has over 2.8 million (2,499.3-3,940.1±) people living with diabetes, which accounts for 5% of people living with diabetes in this region. It will continue to be in the top 10 countries for diabetes-related health expenditure in 2040 at an estimated \$14 billion USD.

The DR Barometer findings indicate that overall a younger population was more likely to be associated with type 1 diabetes which was the opposite for those with type 2 diabetes which tended to be an older population. Eighty-eight percent of those in the youngest age group (18-39 years) had type 1 diabetes (8.8% type 2), 40 – 59 age group 50% had type 1 (48% type 2) and in the 60-79 age group 40% had type 1 (58% type 2). This is an important but well known finding in the context of the United Kingdom's rapidly ageing population.

An important trend noted in the study was that generally, the longer the time since diagnoses of diabetes the greater the likelihood to have DED. Fourteen percent of those diagnosed within the last year had DED and this increased progressively over time to 46% of those diagnosed 16 and 20 years ago.

People were most often informed about their condition by health professionals such as the doctor, nurse. Diabetes and other health organisations and the nutritionist also played important roles and were viewed as valuable sources of information. A trend globally, which was reflected in the United Kingdom study, was the increasing use of the internet by near two-thirds (65%) of the respondents.

Only 16% of respondents were enrolled in diabetes management programmes and most (83%) noted there was education on the importance of screening for eye complications.

Many of those surveyed struggled with the management of their diabetic condition with some issues that were within their personal control such as eating the right foods and balancing the responsibilities of family and work without compromising their only health. Some who were surveyed "did not want to even think about having diabetes." In addition long wait times for appointments and health services not being available were viewed as challenges beyond their control.

There was a relatively high awareness of the complications associated with diabetes. Vision loss (52%) was by far the most concerning followed by cardiovascular and kidney disease. While half of those surveyed had no complications there was still many who reported having neuropathy, cardiovascular and kidney disease and amputations. Two-thirds of those with DED and DME had complications (11% without DED and 31% with DED reported cardiovascular disease).

Knowing that diabetic-related vision loss is preventable addressing barriers to eye

screening is an important policy issue. While most respondents had received an eye exam, which is understandable considering the purposeful sample, there remained many barriers including long wait times for an appointment, a fear of treatment and / or the results and long wait time on the day of the visit

Evidence shows that the relationship between the patient and the health care professional is critical to ensure realistic and optimal patient outcomes. It was therefore surprising that 29% patients surveyed had either never had a conversation about eye complications with their health professional or it only took place only when symptoms were present. Equally concerning is the myths and perceptions around vision changes with more than 14% of patients reporting that vision problems were a normal part of ageing and some not making any special effort to prevent vision problems.

Almost half of those with DED or DME said that their vision was slightly or significantly affected which in turn impacted their health, lifestyle and life choices including difficulty driving a vehicle, in social interactions with family and friends and undertaking household responsibilities, such as cooking or cleaning.. While reported health was reasonably consistent whether the respondent had DED or not, there was a 13% increase in the activity limitation days between those without DED and those with DED.

A proactive treatment approach to prevent further vision loss was preferred rather than reactive treatment once further vision loss had occurred. However for some (16%) respondents access to healthcare was affected by where they actually lived. Health (55%) and family (14%) were the top 'worries' on the minds of the respondents surveyed

Patient education is very much at the heart of a proactive approach so it was somewhat unexpected to find that 22% of providers said

that the written information diabetes and eye complications available was not sufficient. On a positive note 74% of providers, including 94% ophthalmologists, had written protocols for the management of diabetes-related vision which were used by staff. In some practices (12%) education material and protocols on the management of diabetes-related vision did not exist.

For patients with either type 1 or type 2 diabetes 59% and 86% of all providers respectively said that an initial eye exam should occur at time of the diagnosis of diabetes and there was agreement by most providers and ophthalmologists that follow-up eye examinations should be conducted every year.

The top three patient characteristics influencing the referral process for eye complications across providers and ophthalmologists were diabetes duration, high glucose levels, presence of comorbidities such as hypertension and the patient's age.

Limited access to patient education of DR and DME, complex or inadequate referral pathways, and poor multi-disciplinary integration were viewed by ophthalmologists as some of the greatest challenges for improving patient outcomes in DED

In large part, the patients and providers who participated in the study were self-selected, and therefore this population group is more likely to be engaged and motivated in the management of their diabetes hence a possible explanation for the rates of awareness and screening.

Even though the sample is not representative of the broader population, and as such may not truly reflect the national situation, the findings illustrate important trends, and certainly highlight specific areas of concern and potential calls for policy action in the United Kingdom.



# References and Acknowledgement

<sup>1</sup> The World Bank. (2016). *Health nutrition and population statistics: Population estimates and projections* (World Data Bank). Washington, D.C.: The World Bank. Retrieved from <http://databank.worldbank.org/data/reports.aspx?source=Health%20Nutrition%20and%20Population%20Statistics:%20Population%20estimates%20and%20projections>

<sup>2</sup> Department of Economic and Social Affairs. (2016). *World Population Prospects* (No. ESA/P/WP.241). United Nations. Retrieved from [https://esa.un.org/unpd/wpp/publications/files/key\\_findings\\_wpp\\_2015.pdf](https://esa.un.org/unpd/wpp/publications/files/key_findings_wpp_2015.pdf)

<sup>3</sup> International Diabetes Federation. (2015). *IDF Diabetes Atlas*. Retrieved from: <http://www.diabetesatlas.org/>

The IFA, IDF and IAPB would like to acknowledge and thank the many organisations and health care professionals from the United Kingdom that assisted in the dissemination of patient and provider surveys, your contributions were pivotal to the success of the DR Barometer Study.

# Appendices

# The Diabetic Retinopathy Barometer Survey: Appendices for United Kingdom

## APPENDIX 1 : National Results

**Table 1.1**

Survey Information	Number of Respondents (%)
All valid respondents [1]	151 (100.0%)
Respondents aged 18 or over	149 (98.7%)
Respondents with diabetes	135 (89.4%)

*NB [1]: valid respondents are those with country information*

**Table 1.2**

Survey Information	Number of Respondents (%)
All valid respondents	151 (100.0%)
Included in Diabetic Analysis Set	134 (88.7%)
Excluded from Diabetic Analysis Set	17 (11.3%)
Reasons for exclusion from diabetic analysis set	.
Under 18 years of age	2
Not diagnosed with diabetes	11
Missing information on diabetes diagnosis	3
Gestational diabetes only	1

**Table 1.3**

Survey Information	Number of Respondents (%)
Diabetic Analysis Set	134 (100.0%)
World Bank Income Group: High Income	134 (100.0%)
Persons with diabetic eye disease (DED)	42 (31.3%)
Persons with diabetic macular edema (DME)	6 (4.5%)
Persons with Type I diabetes	75 (56.0%)
Persons with Type II diabetes	56 (41.8%)
Persons not seeing health care professional for diabetes	6 (4.5%)
Persons seeing health care professional for diabetes	125 (93.3%)
Persons with eye disease & not received treatment	28 (20.9%)

Survey Information	Number of Respondents (%)
Persons with eye disease & received treatment	17 (12.7%)

**Table 2.1**

Question	Response	Number of Respondents (%)
With which type of diabetes have you been diagnosed?	Type I	75 (56.0)
	Type II	56 (41.8)
	Don't know/Not sure	3 (2.2)
	Total Valid Response	134 (100.0)

**Table 2.2**

Question	Response	Number of Respondents (%)
When was your diabetes diagnosed?	Within the last year	7 (5.3)
	1 - 5 years ago	24 (18.3)
	6 - 10 years ago	19 (14.5)
	11 - 15 years ago	22 (16.8)
	16 - 20 years ago	13 (9.9)
	21 years ago or longer	46 (35.1)
	Total Valid Response	131 (100.0)
	Total missing	3

**Table 2.3.1**

Question	Response	Number of Respondents (%)
Do you see a health care professional for your diabetes?	Yes	125 (95.4)
	No	6 (4.6)
	Total Valid Response	131 (100.0)
	Total missing	3
What kind of health care professional?	General/Family Doctor	28 (23.1)
	Nurse	24 (19.8)
	Diabetes Specialist	68 (56.2)

Question	Response	Number of Respondents (%)
	Other	1 (0.8)
	Total Valid Response	121 (100.0)
	Total missing	13

**Table 2.3.2**

Type of health care professional	Times per year seen for diabetes	Value
General/Family Doctor	Total valid numeric response (n)	20
	Mean	3.0
	SD	2.5
	Median	2.0
	Min	1
	Max	12
	Don't know/Not sure	3
	Total missing	5
Nurse	Total valid numeric response (n)	19
	Mean	2.2
	SD	1.0
	Median	2.0
	Min	1
	Max	4
	Total missing	5
Diabetes Specialist	Total valid numeric response (n)	60
	Mean	2.7
	SD	1.2
	Median	2.0
	Min	1
	Max	6
	Total missing	8
Other	Total valid numeric response (n)	1
	Mean	2.0
	SD	
	Median	2.0
	Min	2



Type of health care professional	Times per year seen for diabetes	Value
	Max	2

**Table 2.4**

Question	Response	Number of Respondents (%)
How have you received information about diabetes?	Doctor or nurse	108 (86.4%)
	Health educator	37 (29.6%)
	Nutritionist or dietitian	55 (44.0%)
	Diabetes organization or other health organization	79 (63.2%)
	Family/Friends/Neighbors	18 (14.4%)
	TV/Radio/Newspaper/Magazines	20 (16.0%)
	Internet	81 (64.8%)
	Social media (e.g. Facebook, Twitter, blogs)	36 (28.8%)
	Pharmacist	16 (12.8%)
	Total Valid Response	125 (100.0%)
	Total missing	9

**Table 2.5**

Question	Response	Number of Respondents (%)
How do you manage your diabetes?	Diet	63 (51.2%)
	Oral medicine	48 (39.0%)
	Exercise	41 (33.3%)
	Insulin	87 (70.7%)
	Natural/Herbal medicine	2 (1.6%)
	Total Valid Response	123 (100.0%)
	Total missing	11

**Table 2.6**

Question	Response	Number of Respondents (%)
Are you currently enrolled in a diabetes patient management support programme?	Yes	20 (16.0)
	No	105 (84.0)
	Total Valid Response	125 (100.0)
	Total missing	9
Who sponsors the programme?	Hospital support program	8 (44.4)
	Clinic support program	3 (16.7)
	Patient organization support program	2 (11.1)
	Don't know/Not sure	5 (27.8)
	Total Valid Response	18 (100.0)
	Total missing	116
Does the programme include education on the importance of screening for diabetic eye complications?	Yes	15 (83.3)
	No	3 (16.7)
	Total Valid Response	18 (100.0)
	Total missing	116

**Table 2.7**

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctors office of clinic? And if yes, how long ago		
Blood glucose test	Yes	115 (97.5%)
	Less than 6 months	89 (75.4%)
	6 - 12 months	20 (16.9%)
	Greater than 12 months	5 (4.2%)
	Total valid response	114 (96.6%)
	Total missing	20

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctors office of clinic? And if yes, how long ago		
	No	3 (2.5%)
	Total valid response	118 (100.0%)
	Total missing	16
Urine check	Yes	111 (94.1%)
	Less than 6 months	69 (58.5%)
	6 - 12 months	30 (25.4%)
	Greater than 12 months	11 (9.3%)
	Total valid response	110 (93.2%)
	Total missing	24
	No	6 (5.1%)
	Don't know/Not sure	1 (0.8%)
	Total valid response	118 (100.0%)
	Total missing	16
Weight check	Yes	112 (95.7%)
	Less than 6 months	82 (70.1%)
	6 - 12 months	20 (17.1%)
	Greater than 12 months	8 (6.8%)
	Total valid response	110 (94.0%)
	Total missing	24
	No	5 (4.3%)
	Total valid response	117 (100.0%)
	Total missing	17
Blood pressure check	Yes	115 (98.3%)

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctors office of clinic? And if yes, how long ago		
	Less than 6 months	88 (75.2%)
	6 - 12 months	22 (18.8%)
	Greater than 12 months	2 (1.7%)
	Total valid response	112 (95.7%)
	Total missing	22
	No	1 (0.9%)
	Don't know/Not sure	1 (0.9%)
	Total valid response	117 (100.0%)
	Total missing	17
Foot check	Yes	112 (94.9%)
	Less than 6 months	60 (50.8%)
	6 - 12 months	39 (33.1%)
	Greater than 12 months	12 (10.2%)
	Total valid response	111 (94.1%)
	Total missing	23
	No	5 (4.2%)
	Don't know/Not sure	1 (0.8%)
	Total valid response	118 (100.0%)
	Total missing	16
Eye check	Yes	109 (93.2%)
	Less than 6 months	58 (49.6%)
	6 - 12 months	43 (36.8%)

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctors office of clinic? And if yes, how long ago		
	Greater than 12 months	7 (6.0%)
	Total valid response	108 (92.3%)
	Total missing	26
	No	8 (6.8%)
	Total valid response	117 (100.0%)
	Total missing	17

**Table 2.8**

Question	Response	Number of Respondents (%)
How well do you think your diabetes is controlled?	Very well	21 (18.3%)
	Well	59 (51.3%)
	Not very well	26 (22.6%)
	Not well at all	6 (5.2%)
	Don't know/Not sure	3 (2.6%)
	Total Valid Response	115 (100.0%)
	Total missing	19

**Table 2.9**

Question	Response	Number of Respondents (%)
What are the main challenges you face in controlling your diabetes?	High cost of care	10 (8.9%)
	No insurance	3 (2.7%)
	Travel to my regular doctor or specialist is difficult	7 (6.3%)



Question	Response	Number of Respondents (%)
	Long wait time for an appointment to see my doctor or specialist	32 (28.6%)
	Health services needed are not available	15 (13.4%)
	Don't know enough about diabetes	7 (6.3%)
	Too hard to eat the right things	41 (36.6%)
	Too many other things to do	32 (28.6%)
	Stigma or discrimination because of diabetes	12 (10.7%)
	Don't want to think about having diabetes	26 (23.2%)
	Other	26 (23.2%)
	Total Valid Response	112 (100.0%)
	Total missing	22

**Table 2.10**

Question	Response	Number of Respondents (%)
Which of the following services currently help you better manage your diabetes?	Free or low cost medicines or monitoring materials	81 (73.0%)
	Support groups	32 (28.8%)
	Support from family or friends	54 (48.6%)
	Health education and information	53 (47.7%)
	Mobile services (services that travel to or near your home)	5 (4.5%)
	Coordination of healthcare and services by a professional	44 (39.6%)
	Emergency helpline	6 (5.4%)
	Other	11 (9.9%)
	None	5 (4.5%)
	Total Valid Response	111 (100.0%)
	Total missing	23

**Table 2.11**

Question	Response	Number of Respondents (%)
What complications (or problems), to your knowledge, arise from diabetes?	Amputation	97 (85.8%)
	Foot ulcers	87 (77.0%)
	Increased risk of broken bones or fractures	13 (11.5%)
	Loss of feeling in hands or toes (neuropathy)	95 (84.1%)
	Vision loss	99 (87.6%)
	Irritable bowel disease	14 (12.4%)
	Kidney disease	77 (68.1%)
	Cardiovascular disease/Stroke	83 (73.5%)
	Other	21 (18.6%)
	Don't know/Not sure	5 (4.4%)
	None	6 (5.3%)
	Total Valid Response	113 (100.0%)
	Total missing	21

**Table 2.12**

Question	Response	Number of Respondents (%)
Which complication of diabetes are you most concerned about?	Amputation	10 (8.9)
	Foot ulcers	4 (3.6)
	Loss of feeling in hands or toes (neuropathy)	2 (1.8)
	Vision loss	58 (51.8)
	Irritable bowel disease	2 (1.8)
	Kidney disease	10 (8.9)
	Cardiovascular disease/Stroke	17 (15.2)
	Don't know/Not sure	6 (5.4)
	None	3 (2.7)
	Total Valid Response	112 (100.0)
	Total missing	22

**Table 2.13**

Question	Response	Number of Respondents (%)
Which of the following complications of diabetes do you have?	Amputation	1 (0.9%)
	Loss of feeling in hands or toes (neuropathy)	19 (17.8%)
	Vision loss	24 (22.4%)
	Irritable bowel disease	10 (9.3%)
	Kidney disease	6 (5.6%)
	Cardiovascular disease/Stroke	11 (10.3%)
	Other	13 (12.1%)
	Don't know/Not sure	8 (7.5%)
	None	55 (51.4%)
	Total Valid Response	107 (100.0%)
	Total missing	27

**Table 2.14**

Question	Response	Number of Respondents (%)
How often do you discuss the possibility of eye complications with your health care professional?	Every visit	21 (18.8%)
	Multiple times per year	16 (14.3%)
	Once per year	38 (33.9%)
	Only when symptoms arise	14 (12.5%)
	Never	18 (16.1%)
	Don't know/Not sure	5 (4.5%)
	Total Valid Response	112 (100.0%)
	Total missing	22

**Table 2.15**

Question	Response	Number of Respondents (%)
Which of the following best describes your attitude to vision issues?	I think that vision problems are a normal part of ageing	16 (14.3%)
	I do what I can to prevent vision problems (e.g. get routine screenings, visit specialists)	105 (93.8%)
	I do not make any special effort to prevent vision problems	7 (6.3%)
	Total Valid Response	112 (100.0%)
	Total missing	22

**Table 2.16**

Question	Response	Number of Respondents (%)
What type of health insurance do you have?	Public	36 (32.4)
	Public - Private	6 (5.4)
	Private	12 (10.8)
	None	57 (51.4)
	Total Valid Response	111 (100.0)
	Total missing	23

**Table 2.17**

Question	Response	Number of Respondents (%)
Most often, how do you pay for the following types of medical care and services?		
General doctor visits (e.g. primary care doctor)	Care is free	95 (90.5)
	Insurance pays total cost	1 (1.0)

Question	Response	Number of Respondents (%)
Most often, how do you pay for the following types of medical care and services?		
	Insurance and out-of-pocket/cash (e.g. co-pays)	8 (7.6)
	Don't know/Not Sure	1 (1.0)
	Total Valid Response	105 (100.0)
	Total missing	29
Specialist medical visits (e.g. eye doctor, gynecologist, urologist)	Care is free	89 (84.0)
	Insurance pays total cost	2 (1.9)
	Insurance and out-of-pocket/cash (e.g. co-pays)	8 (7.5)
	Out-of-pocket only (pay cash for all care)	4 (3.8)
	Do not use service	2 (1.9)
	Don't know/Not Sure	1 (0.9)
	Total Valid Response	106 (100.0)
	Total missing	28
Medicines	Care is free	93 (89.4)
	Insurance pays total cost	1 (1.0)
	Insurance and out-of-pocket/cash (e.g. co-pays)	8 (7.7)
	Out-of-pocket only (pay cash for all care)	1 (1.0)
	Don't know/Not Sure	1 (1.0)
	Total Valid Response	104 (100.0)
	Total missing	30
Medical supplies (e.g. blood glucose meter/strips)	Care is free	82 (78.1)
	Insurance pays total cost	2 (1.9)
	Insurance and out-of-pocket/cash (e.g. co-pays)	7 (6.7)
	Out-of-pocket only (pay cash for all care)	3 (2.9)
	Do not use service	10 (9.5)
	Don't know/Not Sure	1 (1.0)

Question	Response	Number of Respondents (%)
Most often, how do you pay for the following types of medical care and services?		
	Total Valid Response	105 (100.0)
	Total missing	29
Procedures	Care is free	80 (75.5)
	Insurance pays total cost	2 (1.9)
	Insurance and out-of-pocket/cash (e.g. co-pays)	8 (7.5)
	Out-of-pocket only (pay cash for all care)	2 (1.9)
	Do not use service	12 (11.3)
	Don't know/Not Sure	2 (1.9)
	Total Valid Response	106 (100.0)
	Total missing	28
Tests/screenings	Care is free	92 (87.6)
	Insurance pays total cost	2 (1.9)
	Insurance and out-of-pocket/cash (e.g. co-pays)	6 (5.7)
	Do not use service	4 (3.8)
	Don't know/Not Sure	1 (1.0)
	Total Valid Response	105 (100.0)
	Total missing	29
Health education	Care is free	75 (70.8)
	Insurance pays total cost	2 (1.9)
	Insurance and out-of-pocket/cash (e.g. co-pays)	4 (3.8)
	Out-of-pocket only (pay cash for all care)	1 (0.9)
	Do not use service	19 (17.9)
	Don't know/Not Sure	5 (4.7)
	Total Valid Response	106 (100.0)
	Total missing	28
Counseling	Care is free	39 (37.1)
	Insurance pays total cost	2 (1.9)



Question	Response	Number of Respondents (%)
Most often, how do you pay for the following types of medical care and services?		
	Insurance and out-of-pocket/cash (e.g. co-pays)	3 (2.9)
	Out-of-pocket only (pay cash for all care)	5 (4.8)
	Do not use service	47 (44.8)
	Don't know/Not Sure	9 (8.6)
	Total Valid Response	105 (100.0)
	Total missing	29

**Table 3.1**

Question	Response	Number of Respondents (%)
Are you aware of any government sponsored screening programs for diabetic eye disease (diabetic retinopathy)?	Yes	71 (66.4%)
	No	36 (33.6%)
	Total valid response	107 (100.0%)
	Total missing	27

**Table 3.2**

Question	Response	Number of Respondents (%)
Have you ever had an eye exam for diabetic eye disease?	Yes	102 (92.7%)
	No	8 (7.3%)
	Total valid response	110 (100.0%)
	Total missing	24
How long ago was your last eye exam?	Within the last year	95 (94.1%)
	More than 1 year ago but less than 2 years	6 (5.9%)
	Total valid response	101 (100.0%)
	Total missing	33
Who did the last exam?	General/Family practitioner	2 (2.0%)
	Eye doctor/Eye clinic	84 (84.8%)

Question	Response	Number of Respondents (%)
	Other	12 (12.1%)
	Don't know/Not sure	1 (1.0%)
	Total valid response	99 (100.0%)
	Total missing	35

**Table 3.3**

Question	Response	Number of Respondents (%)
Have you ever had a dilated eye exam, where your eyes are examined after eye drops?	Yes	104 (97.2%)
	No	2 (1.9%)
	Don't know/Not sure	1 (0.9%)
	Total valid response	107 (100.0%)
	Total missing	27

**Table 3.4**

Question	Response	Number of Respondents (%)
Based on what you know, how often should you get your eyes examined for diabetic eye disease?	Once a year	103 (95.4%)
	Every two years	3 (2.8%)
	Don't know/Not sure	2 (1.9%)
	Total valid response	108 (100.0%)
	Total missing	26

**Table 3.5**

Question	Response	Number of Respondents (%)
For you, what are the biggest barriers to eye exams?	They are expensive	6 (7.8%)
	Eye exams are not available near my home	2 (2.6%)

Question	Response	Number of Respondents (%)
	Long wait time for appointment	23 (29.9%)
	Long wait time on the day of the visit	14 (18.2%)
	Referral process is complicated or takes too long	9 (11.7%)
	Recommended treatments for eye problems are not available	2 (2.6%)
	Don't know much about my condition	3 (3.9%)
	Fear of treatment/results	23 (29.9%)
	Burden on my family/friends	8 (10.4%)
	Limited access to diabetes specialists	8 (10.4%)
	I'm not likely to have eye complications	1 (1.3%)
	Too many other things to do or worry about	9 (11.7%)
	Clinics are too small or lack necessary equipment/staff	1 (1.3%)
	Other	19 (24.7%)
	Total valid response	77 (100.0%)
	Total missing	57

**Table 3.6**

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic eye disease?	Yes	47 (43.5%)
	No	61 (56.5%)
	Total valid response	108 (100.0%)
	Total missing	26
Has your diabetic eye disease affected your vision?	Yes, slightly	19 (41.3%)
	Yes, significantly	3 (6.5%)
	No	24 (52.2%)
	Total valid response	46 (100.0%)
	Total missing	88
Have vision issues caused you to have difficulty with any of the following?	Traveling	1 (4.5%)

Question	Response	Number of Respondents (%)
	Household responsibilities, such as cooking or cleaning	3 (13.6%)
	Social interactions with family/friends	4 (18.2%)
	Leisure activities/exercise	3 (13.6%)
	Work or keeping a job	2 (9.1%)
	Managing my diabetes	3 (13.6%)
	Other	6 (27.3%)
	None	10 (45.5%)
	Driving (a car/vehicle)	8 (36.4%)
	Total valid response	22 (100.0%)
	Total missing	112

**Table 3.7**

Question	Response	Number of Respondents (%)
Have you had any treatment for diabetic eye disease?	Yes	17 (37.0%)
	No	28 (60.9%)
	Don't know/Not sure	1 (2.2%)
	Total valid response	46 (100.0%)
	Total missing	88
What treatment did you receive?	Laser	16 (94.1%)
	Injection in the eye (Anti-VEGF)	2 (11.8%)
	Surgery	4 (23.5%)
	Other	2 (11.8%)
	Total valid response	17 (100.0%)
	Total missing	117
Did you complete the treatment?	Yes	9 (52.9%)
	Still receiving treatment	7 (41.2%)
	Don't know/Not sure	1 (5.9%)
	Total valid response	17 (100.0%)
	Total missing	117

Question	Response	Number of Respondents (%)
Do you feel that the treatment worked?	Yes, and vision improved	7 (41.2%)
	Yes, but vision stayed the same	7 (41.2%)
	No	1 (5.9%)
	Still waiting to know	1 (5.9%)
	Don't know/Not sure	1 (5.9%)
	Total valid response	17 (100.0%)
	Total missing	117
What is/are the reason(s) that you did not complete the treatment?	Total missing	134
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	25 (89.3%)
	Treatment would not be effective	1 (3.6%)
	I'm too busy	1 (3.6%)
	I'm fearful of treatment	1 (3.6%)
	Other	3 (10.7%)
	Total valid response	28 (100.0%)
	Total missing	106

**Table 3.8**

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic macular edema?	Yes	6 (5.7%)
	No	95 (89.6%)
	Don't know/Not sure	5 (4.7%)
	Total valid response	106 (100.0%)
	Total missing	28
If Yes, which of the following would you prefer	Treatment to prevent further vision loss	5 (83.3%)
	Don't know/Not sure	1 (16.7%)
	Total valid response	6 (100.0%)
	Total missing	128

**Table 3.9**

Question	Response	Number of Respondents (%)
Have you received information about diabetic retinopathy or diabetic macular edema from any of the following sources?	Doctor/Nurse	62 (58.5%)
	Health educator	19 (17.9%)
	Diabetes organization or other health organization	45 (42.5%)
	Family/Friends/Neighbors	4 (3.8%)
	TV/Radio/Newspaper/Magazines	4 (3.8%)
	Internet	33 (31.1%)
	Other	1 (0.9%)
	None of the above	22 (20.8%)
	Total valid response	106 (100.0%)
	Total missing	28

**Table 4.1**

Question	Response	Number of Respondents (%)
What is your gender?	Female	69 (65.7)
	Male	36 (34.3)
	Total Valid Response	105 (100.0)
	Total missing	29
Please indicate your age	18 - 29	24 (17.9)
	30 - 39	10 (7.5)
	40 - 49	25 (18.7)
	50 - 59	35 (26.1)
	60 - 69	30 (22.4)
	70 - 79	8 (6.0)
	80 - 89	2 (1.5)
	Total Valid Response	134 (100.0)

**Table 4.2**

Question	Response	Number of Respondents (%)
Where do you live?	Urban setting	87 (82.1)
	Non-urban setting	19 (17.9)
	Total Valid Response	106 (100.0)
	Total missing	28

**Table 4.3**

Question	Response	Number of Respondents (%)
What is the highest level of education you completed?	Did not complete primary school	1 (0.9)
	Primary school	1 (0.9)
	Secondary school	23 (21.7)
	College/University	41 (38.7)
	Graduate or post-graduate	40 (37.7)
	Total valid response	106 (100.0)
	Total missing	28

**Table 4.4**

Question	Response	Number of Respondents (%)
Are you currently working?	Working for pay	55 (51.9)
	Working without pay at home (e.g. housework, farming)	3 (2.8)
	Volunteering	6 (5.7)
	Retired	26 (24.5)
	Student	3 (2.8)
	Not working	13 (12.3)
	Total Valid Response	106 (100.0)
	Total missing	28

**Table 4.5**

Question	Response	Number of Respondents (%)
Do you receive assistance from the government?	Income assistance	12 (11.4%)

Question	Response	Number of Respondents (%)
	Medical assistance	20 (19.0%)
	Food assistance	1 (1.0%)
	Housing assistance	7 (6.7%)
	Pension assistance	6 (5.7%)
	None of the above	77 (73.3%)
	Total valid response	105 (100.0%)
	Total missing	29

**Table 4.6**

Question	Response	Number of Respondents (%)
Did you have trouble paying for food at anytime during the past year?	Yes	13 (12.3)
	No	93 (87.7)
	Total Valid Response	106 (100.0)
	Total missing	28

**Table 4.7**

Question	Response	Number of Respondents (%)
Do you feel that your access to health care is negatively affected by any of the following?	Age	9 (9.1)
	Education	3 (3.0)
	Gender	2 (2.0)
	Income	4 (4.0)
	Language you speak	3 (3.0)
	Place of birth	2 (2.0)
	Place where you live	16 (16.2)
	Race	1 (1.0)
	None of the above	74 (74.7)



Question	Response	Number of Respondents (%)
	Total valid response	99 (100.0)
	Total missing	35

**Table 4.8**

Question	Response	Number of Respondents (%)
Which of the following do you worry about most?	Food	2 (1.9)
	Housing	2 (1.9)
	Money	19 (18.1)
	Health	58 (55.2)
	Family	15 (14.3)
	None of the above	9 (8.6)
	Total Valid Response	105 (100.0)
	Total missing	29

**Table 5.1**

Question	Response	Number of Respondents (%)
In general, would you say your health is:	Excellent	1 (1.0%)
	Very good	17 (16.7%)
	Good	41 (40.2%)
	Total good health	59 (57.8%)
	Fair	31 (30.4%)
	Poor	12 (11.8%)
	Fair or poor health	43 (42.2%)
	Total valid response	102 (100.0%)
	Total missing	32

**Table 5.2**

Question	Response	Number of Respondents (%)
How many days during last 30 days was your physical health not good	Any unhealthy days	45 (51.1%)

Question	Response	Number of Respondents (%)
	1-5 unhealthy days	21 (23.9%)
	6-10 unhealthy days	9 (10.2%)
	11-20 unhealthy days	8 (9.1%)
	21-30 unhealthy days	7 (8.0%)
	No unhealthy days	43 (48.9%)
	Total valid response	88 (100.0%)
	Total missing	46

**Table 5.3.1**

Question	Response	Number of Respondents (%)
How many days during last 30 days was your mental health not good	Any unhealthy days	39 (45.3%)
	1-5 unhealthy days	15 (17.4%)
	6-10 unhealthy days	5 (5.8%)
	11-20 unhealthy days	11 (12.8%)
	21-30 unhealthy days	8 (9.3%)
	No unhealthy days	47 (54.7%)
	Total valid response	86 (100.0%)
	Total missing	48

**Table 5.3.2**

Question	Response	Number of Respondents (%)
Unhealthy days (physically or mentally unhealthy, max 30)	Any unhealthy days	61 (69.3%)

Question	Response	Number of Respondents (%)
	1-5 unhealthy days	22 (25.0%)
	6-10 unhealthy days	10 (11.4%)
	11-20 unhealthy days	12 (13.6%)
	21-30 unhealthy days	17 (19.3%)
	No unhealthy days	27 (30.7%)
	Total valid response	88 (100.0%)

**Table 5.4**

Question	Response	Number of Respondents (%)
How many days during last 30 days did poor health limit your usual activities	Any unhealthy days	29 (45.3%)
	1-5 unhealthy days	12 (18.8%)
	6-10 unhealthy days	5 (7.8%)
	11-20 unhealthy days	6 (9.4%)
	21-30 unhealthy days	6 (9.4%)
	No unhealthy days	35 (54.7%)
	Total valid response	64 (100.0%)
	Total missing	70

**Table 5.5**

Question	Response	Number of Respondents (%)
Are you limited in any way in any activities because of any impairment or health problem?	Yes	31 (31.0%)
	No	69 (69.0%)

Question	Response	Number of Respondents (%)
	Total valid response	100 (100.0%)
	Total missing	34
Which impairment or health problem, if any, limits your activities?		
a) Arthritis/rheumatism	Yes	10 (38.5%)
	No	15 (57.7%)
	Don't know/Not sure	1 (3.8%)
	Total valid response	26 (100.0%)
	Total missing	108
b) Back or neck problem	Yes	14 (50.0%)
	No	14 (50.0%)
	Total valid response	28 (100.0%)
	Total missing	106
c) Fractures, bone/joint injury	Yes	5 (19.2%)
	No	20 (76.9%)
	Don't know/Not sure	1 (3.8%)
	Total valid response	26 (100.0%)
	Total missing	108
d) Walking problem	Yes	18 (64.3%)
	No	10 (35.7%)
	Total valid response	28 (100.0%)
	Total missing	106
e) Lung/breathing problem	Yes	4 (16.0%)
	No	21 (84.0%)
	Total valid response	25 (100.0%)
	Total missing	109
f) Hearing problem	Yes	3 (11.5%)
	No	22 (84.6%)

Question	Response	Number of Respondents (%)
	Don't know/Not sure	1 (3.8%)
	Total valid response	26 (100.0%)
	Total missing	108
g) Eye/vision problem	Yes	13 (48.1%)
	No	14 (51.9%)
	Total valid response	27 (100.0%)
	Total missing	107
h) Heart problem	Yes	7 (26.9%)
	No	19 (73.1%)
	Total valid response	26 (100.0%)
	Total missing	108
i) Stroke problem	Yes	5 (19.2%)
	No	21 (80.8%)
	Total valid response	26 (100.0%)
	Total missing	108
j) Hypertension/high blood pressure	Yes	7 (26.9%)
	No	18 (69.2%)
	Don't know/Not sure	1 (3.8%)
	Total valid response	26 (100.0%)
	Total missing	108
k) Diabetes	Yes	21 (70.0%)
	No	8 (26.7%)
	Don't know/Not sure	1 (3.3%)
	Total valid response	30 (100.0%)
	Total missing	104
l) Cancer	Yes	1 (4.0%)
	No	24 (96.0%)

Question	Response	Number of Respondents (%)
	Total valid response	25 (100.0%)
	Total missing	109
m) Mental or emotional health	Yes	9 (36.0%)
	No	15 (60.0%)
	Don't know/Not sure	1 (4.0%)
	Total valid response	25 (100.0%)
	Total missing	109

### PT 1.2

Analysis Sets	Number of Respondents (%)
All valid respondents	71 (100.0%)
Included in Provider Analysis Set (PAS)	71 (100.0%)
Excluded in Provider Analysis Set (PAS)	0 (0.0%)
Reasons for exclusion from Provider Analysis Set:	
No other valid survey data	0
Provider Analysis Set	71
Included in the Eye Care Professional Set (Eye Specialist)	38 (53.5%)
Excluded in the Eye Care Professional Set (Eye Specialist)	33 (46.5%)
Reasons for exclusion from Eye Care Professional Set:	
Missing required speciality	33
No valid (non-missing) response for the supplemental eye questionnaire	0

### PT 1.3

Subgroups	Number of Respondents (%)
Provider Analysis Set	71 (100.0%)
Primary Care Provider	2 (2.8%)
Diabetes Specialist Provider	12 (16.9%)
Eye Care Professional	38 (53.5%)
Ophthalmologist	20 (28.2%)

NB [1]: Primary Care Provider = General Practitioner/Family practitioner (but not diabetes specialist or eye care professional)

NB [2]: Diabetes specialist provider = Diabetes specialist (but not eye care professional)

NB [4]: Ophthalmologist = General ophthalmologist or retinal specialist

NB [5]: Note that providers may have selected more than one specialty

#### PT 1.4

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is your specialty?	General primary care/Family practitioner	2 (100.0%)	2 (16.7%)	0 (0.0%)	4 (5.6%)
	Diabetes specialist	0 (0.0%)	12 (100.0%)	1 (5.0%)	13 (18.3%)
	General ophthalmologist	0 (0.0%)	0 (0.0%)	3 (15.0%)	3 (4.2%)
	Optometrist	0 (0.0%)	0 (0.0%)	0 (0.0%)	18 (25.4%)
	Retinal specialist	0 (0.0%)	0 (0.0%)	20 (100.0%)	20 (28.2%)
	Nurse	0 (0.0%)	2 (16.7%)	0 (0.0%)	8 (11.3%)
	Health educator	0 (0.0%)	1 (8.3%)	0 (0.0%)	3 (4.2%)
	None of the above	0 (0.0%)	0 (0.0%)	0 (0.0%)	12 (16.9%)
	Total valid response	2 (100.0%)	12 (100.0%)	20 (100.0%)	71 (100.0%)
	Total missing	0	0	0	0

#### PT 1.5

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
How long have you been practicing in this profession?	Total valid response (n)	2	11	18	67
	Mean	12.5	14.3	14.3	14.6
	SD	3.5	9.1	8.3	10.5
	Median	12.5	10.0	14.5	10.0
	Min.	10	0	3	0
	Max.	15	28	30	40
	Total missing	0	1	2	4

**PT 2.1**

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is your main practice setting?	Diabetes clinic/practice	0 (0.0%)	3 (27.3%)	0 (0.0%)	7 (10.8%)
	Eye clinic/practice	0 (0.0%)	1 (9.1%)	7 (36.8%)	23 (35.4%)
	General medical clinic/practice	1 (50.0%)	1 (9.1%)	0 (0.0%)	4 (6.2%)
	Hospital	1 (50.0%)	5 (45.5%)	12 (63.2%)	21 (32.3%)
	Other	0 (0.0%)	1 (9.1%)	0 (0.0%)	10 (15.4%)
	Total Valid Response	2 (100.0%)	11 (100.0%)	19 (100.0%)	65 (100.0%)
	Total missing	0	1	1	6

**PT 2.2**

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Where is your main practice located?	Urban setting	2 (100.0%)	10 (100.0%)	18 (94.7%)	57 (90.5%)
	Non-urban setting	0 (0.0%)	0 (0.0%)	1 (5.3%)	6 (9.5%)
	Total Valid Response	2 (100.0%)	10 (100.0%)	19 (100.0%)	63 (100.0%)
	Total missing	0	2	1	8

**PT 2.3**

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In which sector is your main practice?	Government	1 (50.0%)	8 (72.7%)	18 (94.7%)	40 (61.5%)



Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Private	1 (50.0%)	1 (9.1%)	0 (0.0%)	12 (18.5%)
	Non profit	0 (0.0%)	1 (9.1%)	1 (5.3%)	6 (9.2%)
	Combined/mixed	0 (0.0%)	1 (9.1%)	0 (0.0%)	7 (10.8%)
	Total Valid Response	2 (100.0%)	11 (100.0%)	19 (100.0%)	65 (100.0%)
	Total missing	0	1	1	6

#### PT 2.4

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is your main practice limited to certain populations?	No	2 (100.0%)	8 (72.7%)	18 (94.7%)	54 (83.1%)
	Yes, limited by age	0 (0.0%)	2 (18.2%)	1 (5.3%)	8 (12.3%)
	Yes, limited by gender	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.5%)
	Yes, limited to low income or uninsured persons	0 (0.0%)	1 (9.1%)	0 (0.0%)	1 (1.5%)
	Yes, limited to persons who pay out-of-pocket	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.5%)
	Yes, other	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.5%)
	Total valid response	2 (100.0%)	11 (100.0%)	19 (100.0%)	65 (100.0%)
	Total missing	0	1	1	6

#### PT 2.5

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the average wait time for an appointment in your main practice?	Less than 1 week	0 (0.0%)	0 (0.0%)	1 (5.9%)	8 (14.3%)
	More than 1 week but less than 1 month	2 (100.0%)	4 (40.0%)	2 (11.8%)	18 (32.1%)
	More than 1 month but less than 2 months	0 (0.0%)	1 (10.0%)	6 (35.3%)	11 (19.6%)
	More than 2 months but less than 3 months	0 (0.0%)	3 (30.0%)	6 (35.3%)	9 (16.1%)
	More than 3 months but less than 6 months	0 (0.0%)	0 (0.0%)	1 (5.9%)	1 (1.8%)
	Six or more months	0 (0.0%)	0 (0.0%)	1 (5.9%)	2 (3.6%)
	Do not take appointments	0 (0.0%)	1 (10.0%)	0 (0.0%)	4 (7.1%)
	Don't know/Not sure	0 (0.0%)	1 (10.0%)	0 (0.0%)	3 (5.4%)
	Total Valid Response	2 (100.0%)	10 (100.0%)	17 (100.0%)	56 (100.0%)
	Total missing	0	2	3	15

#### PT 2.6

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
On average, how many patients do you see per week in your main practice [n patients]	Total valid response (n)	2	8	17	54
	Mean	187.5	71.5	91.8	95.8
	SD	17.7	64.9	30.9	98.5
	Median	187.5	46	100	75
	Min.	175	10	40	0
	Max.	200	200	175	500

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total missing	0	4	3	17
What percentage of the patients in your main practice have diabetes [% patients]	Total valid response (n)	2	9	17	54
	Mean	43	59.2	41.7	44.7
	SD	52.3	32.5	27.7	31.9
	Median	43	70	33	33
	Min.	6	10	6	0
	Max.	80	100	100	100
	Total missing	0	3	3	17

#### PT 2.7

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In your main practice, how do patients pay for the care and services that you provide?	Don't pay	1 (50.0%)	7 (77.8%)	16 (94.1%)	44 (78.6%)
	Pay a reduced/subsidized rate	1 (50.0%)	0 (0.0%)	0 (0.0%)	5 (8.9%)
	Pay out-of-pocket (full fees)	0 (0.0%)	1 (11.1%)	0 (0.0%)	10 (17.9%)
	Pay through insurance	1 (50.0%)	1 (11.1%)	1 (5.9%)	7 (12.5%)
	Patient pays some, insurance pays some	0 (0.0%)	2 (22.2%)	0 (0.0%)	6 (10.7%)
	Other	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (7.1%)
	Total valid response	2 (100.0%)	9 (100.0%)	17 (100.0%)	56 (100.0%)
	Total missing	0	3	3	15

**PT 2.8**

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In addition to your main practice, do you work in another practice setting?	Yes		3 (30.0%)	5 (29.4%)	13 (22.8%)
	No	2 (100.0%)	7 (70.0%)	12 (70.6%)	44 (77.2%)
	Total valid response	2 (100.0%)	10 (100.0%)	17 (100.0%)	57 (100.0%)
	Total missing		2	3	14
In which other practice setting(s) do you work?	Hospital		1 (50.0%)	1 (20.0%)	3 (25.0%)
	General medical clinic/practice		1 (50.0%)		1 (8.3%)
	Diabetes clinic/practice		1 (50.0%)		1 (8.3%)
	Eye clinic/practice			4 (80.0%)	6 (50.0%)
	Other				2 (16.7%)
	Total valid response		2 (100.0%)	5 (100.0%)	12 (100.0%)
	Total missing	2	10	15	59
In which sector(s) is(are) the practice(s)?	Government		2 (100.0%)	2 (40.0%)	5 (41.7%)
	Private			3 (60.0%)	3 (25.0%)
	Non profit				1 (8.3%)
	Combined/mixed				3 (25.0%)
	Total valid response		2 (100.0%)	5 (100.0%)	12 (100.0%)
	Total missing	2	10	15	59
Is there a major difference between your practices with respect to how	Yes		1 (50.0%)		4 (33.3%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
diabetic eye disease is screened and managed?					
	No		1 (50.0%)	5 (100.0%)	8 (66.7%)
	Total valid response		2 (100.0%)	5 (100.0%)	12 (100.0%)
	Total missing	2	10	15	59

#### PT 2.9

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Blood glucose	Yes		1 (50.0%)	5 (71.4%)	8 (57.1%)	21 (52.5%)
		Total valid numeric response (n)	1 (50.0%)	5 (71.4%)	8 (57.1%)	20 (50.0%)
		Mean	1.0	75.6	1.4	20.9
		SD		161.8	0.9	81.1
		Median	1.0	4.0	1.0	2.0
		Min	1	1	0	0
		Max	1	365	3	365
		Total missing	1	7	12	51
		No	1 (50.0%)	2 (28.6%)	6 (42.9%)	19 (47.5%)
		Total valid response	2 (100.0%)	7 (100.0%)	14 (100.0%)	40 (100.0%)
		Total missing		5	6	31
HbA1c	Yes		2 (100.0%)	7 (100.0%)	7 (46.7%)	24 (57.1%)
		Total valid numeric	2 (100.0%)	7 (100.0%)	7 (46.7%)	23 (54.8%)

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		response (n)				
		Mean	2.0	54.3	1.4	17.7
		SD	2.8	137.0	0.8	75.7
		Median	2.0	2.0	1.0	2.0
		Min	0	1	1	0
		Max	4	365	3	365
		Total missing	0	5	13	48
	No				8 (53.3%)	18 (42.9%)
	Total valid response				15 (100.0%)	42 (100.0%)
	Total missing				5	29
Urine check	Yes		2 (100.0%)	7 (100.0%)	3 (21.4%)	20 (48.8%)
		Total valid numeric response (n)	2 (100.0%)	7 (100.0%)	3 (21.4%)	19 (46.3%)
		Mean	0.5	54.1	1.3	20.7
		SD	0.7	137.1	1.5	83.4
		Median	0.5	2.0	1.0	1.0
		Min	0	1	0	0
		Max	1	365	3	365
		Total missing	0	5	17	52
	No				11 (78.6%)	21 (51.2%)
	Total valid response				14 (100.0%)	41 (100.0%)
	Total missing				5	30

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Weight check	Yes		2 (100.0%)	7 (100.0%)	3 (21.4%)	18 (46.2%)
		Total valid numeric response (n)	2 (100.0%)	7 (100.0%)	2 (14.3%)	16 (41.0%)
		Mean	0.5	54.4	2.0	25.9
		SD	0.7	137.0	1.4	90.6
		Median	0.5	2.0	2.0	2.0
		Min	0	2	1	0
		Max	1	365	3	365
		Total missing	0	5	18	55
	No				11 (78.6%)	21 (53.8%)
	Total valid response				14 (100.0%)	39 (100.0%)
	Total missing				5	6
			2 (100.0%)	7 (100.0%)	8 (57.1%)	25 (62.5%)
			2 (100.0%)	7 (100.0%)	8 (57.1%)	24 (60.0%)
			0.5	54.7	1.9	18.1
			0.7	136.8	0.8	74.0
			0.5	2.0	2.0	2.0
			0	2	1	0
			1	365	3	365
			0	5	12	47
	No				6 (42.9%)	15 (37.5%)
	Total valid response				14 (100.0%)	40 (100.0%)
Blood pressure check	Yes		2 (100.0%)	7 (100.0%)	8 (57.1%)	25 (62.5%)

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total missing			5	6	31
Foot check	Yes		1 (50.0%)	6 (100.0%)	3 (21.4%)	17 (43.6%)
		Total valid numeric response (n)	1 (50.0%)	6 (100.0%)	2 (14.3%)	15 (38.5%)
		Mean	1.0	42.5	2.0	17.9
		SD		101.7	1.4	64.2
		Median	1.0	1.0	2.0	1.0
		Min	1	0	1	0
		Max	1	250	3	250
		Total missing	1	6	18	56
	No		1 (50.0%)		11 (78.6%)	22 (56.4%)
	Total valid response		2 (100.0%)	6 (100.0%)	14 (100.0%)	39 (100.0%)
	Total missing			6	6	32
Eye examination - Un-dilated	Yes		1 (50.0%)	3 (50.0%)	8 (53.3%)	24 (52.2%)
		Total valid numeric response (n)	1 (50.0%)	3 (50.0%)	8 (53.3%)	23 (50.0%)
		Mean	0.0	7.0	2.9	18.2
		SD		11.3	3.1	75.7
		Median	0.0	1.0	1.5	1.0
		Min	0	0	1	0
		Max	0	20	10	365
		Total missing	1	9	12	48
	No		1 (50.0%)	3 (50.0%)	7 (46.7%)	22 (47.8%)



Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total valid response		2 (100.0%)	6 (100.0%)	15 (100.0%)	46 (100.0%)
	Total missing			6	5	25
Eye examination - Optical Coherence Tomography	Yes		1 (50.0%)	2 (33.3%)	16 (100.0%)	29 (63.0%)
		Total valid numeric response (n)	1 (50.0%)	2 (33.3%)	15 (93.8%)	27 (58.7%)
		Mean	0.0	0.0	2.3	2.3
		SD		0.0	2.5	4.1
		Median	0.0	0.0	2.0	1.0
		Min	0	0	0	0
		Max	0	0	10	20
		Total missing	1	10	5	44
		No	1 (50.0%)	4 (66.7%)		17 (37.0%)
		Total valid response	2 (100.0%)	6 (100.0%)	16 (100.0%)	46 (100.0%)
		Total missing		6	4	25
Eye examination - Fundoscopy	Yes			3 (50.0%)	17 (100.0%)	40 (80.0%)
		Total valid numeric response (n)	0 (0.0%)	3 (50.0%)	16 (94.1%)	36 (72.0%)
		Mean		3.7	2.5	22.3
		SD		5.5	2.4	84.3
		Median		1.0	2.0	1.0
		Min		0	0	0

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Max		10	10	365
		Total missing	2	9	4	35
	No		2 (100.0%)	3 (50.0%)		10 (20.0%)
	Total valid response		2 (100.0%)	6 (100.0%)	17 (100.0%)	50 (100.0%)
	Total missing			6	3	21
	Eye examination - Fluorescein Angiography		1 (50.0%)	1 (16.7%)	15 (93.8%)	21 (51.2%)
		Total valid numeric response (n)	1 (50.0%)	1 (16.7%)	15 (93.8%)	21 (51.2%)
		Mean	0.0	0.0	1.1	0.9
		SD			0.6	0.6
		Median	0.0	0.0	1.0	1.0
		Min	0	0	0	0
		Max	0	0	3	3
		Total missing	1	11	5	50
	No		1 (50.0%)	5 (83.3%)	1 (6.3%)	20 (48.8%)
	Total valid response		2 (100.0%)	6 (100.0%)	16 (100.0%)	41 (100.0%)
	Total missing			6	4	30
	Eye examination - Lipid check		1 (50.0%)	4 (66.7%)	4 (30.8%)	16 (43.2%)
		Total valid numeric response (n)	1 (50.0%)	4 (66.7%)	3 (23.1%)	14 (37.8%)

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Mean	0.0	50.5	1.0	15.1
		SD		99.7	0.0	53.2
		Median	0.0	1.0	1.0	1.0
		Min	0	0	1	0
		Max	0	200	1	200
		Total missing	1	8	17	57
	No		1 (50.0%)	2 (33.3%)	9 (69.2%)	21 (56.8%)
	Total valid response		2 (100.0%)	6 (100.0%)	13 (100.0%)	37 (100.0%)
	Total missing			6	7	34

#### PT 2.10

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In your main practice, what topics do you cover during a routine visit with a patient who has diabetes?	Diabetes management and monitoring	2 (100.0%)	7 (87.5%)	10 (58.8%)	31 (60.8%)
	Diet/nutrition	1 (50.0%)	8 (100.0%)	6 (35.3%)	24 (47.1%)
	Exercise/physical activity	2 (100.0%)	7 (87.5%)	7 (41.2%)	25 (49.0%)
	Medicines	1 (50.0%)	8 (100.0%)	6 (35.3%)	28 (54.9%)
	Foot care and inspection	1 (50.0%)	6 (75.0%)	2 (11.8%)	13 (25.5%)
	Blood pressure	1 (50.0%)	7 (87.5%)	7 (41.2%)	22 (43.1%)
	Eye care and exams	0 (0.0%)	3 (37.5%)	17 (100.0%)	39 (76.5%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Lipid check	0 (0.0%)	5 (62.5%)	2 (11.8%)	11 (21.6%)
	Other	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (2.0%)
	None of the above	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (3.9%)
	Total valid response	2 (100.0%)	8 (100.0%)	17 (100.0%)	51 (100.0%)
	Total missing	0	4	3	20

**PT 2.11**

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is there written information about diabetes available for patients in your main practice?	Yes, and information on eye complications is sufficient	1 (50.0%)	3 (37.5%)	15 (88.2%)	30 (58.8%)
	Yes, but information on eye complications is not sufficient	1 (50.0%)	5 (62.5%)	1 (5.9%)	11 (21.6%)
	Yes, but no information on eye complications is included	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (2.0%)
	No written information is available for patients	0 (0.0%)	0 (0.0%)	1 (5.9%)	5 (9.8%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (7.8%)
	Total Valid Response	2 (100.0%)	8 (100.0%)	17 (100.0%)	51 (100.0%)
	Total missing	0	4	3	20

**PT 2.12**

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you have written protocols/guidelines available in your main practice for the management of diabetes?	Yes, available and used by staff	1 (50.0%)	8 (100.0%)	11 (68.8%)	35 (70.0%)
	Yes, available but not used by staff	0 (0.0%)	0 (0.0%)	2 (12.5%)	2 (4.0%)
	Not available	1 (50.0%)	0 (0.0%)	3 (18.8%)	10 (20.0%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (6.0%)
	Total Valid Response	2 (100.0%)	8 (100.0%)	16 (100.0%)	50 (100.0%)
	Total missing	0	4	4	21

#### PT 2.13

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you have written protocols/guidelines for detection and management of diabetes-related vision issue available in your main practice?	Yes, available and used by staff	2 (100.0%)	3 (37.5%)	15 (93.8%)	37 (74.0%)
	Yes, available but not used by staff	0 (0.0%)	1 (12.5%)	1 (6.3%)	2 (4.0%)
	Not available	0 (0.0%)	2 (25.0%)	0 (0.0%)	6 (12.0%)
	Don't know/Not sure	0 (0.0%)	2 (25.0%)	0 (0.0%)	5 (10.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total Valid Response	2 (100.0%)	8 (100.0%)	16 (100.0%)	50 (100.0%)
	Total missing	0	4	4	21

**PT 2.14**

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the protocol in your main practice for timing of initial eye exams for persons with diabetes - Type I?	After a predetermined number of years (numeric response) (n)	0 (0.0%)	1 (12.5%)	2 (12.5%)	5 (10.2%)
	Mean		3.0	5.0	4.6
	SD			0.0	0.9
	Median		3.0	5.0	5.0
	Min		3	5	3
	Max		3	5	5
	After a predetermined age (numeric response) (n)	0 (0.0%)	0 (0.0%)	5 (31.3%)	8 (16.3%)
	Mean			13.0	12.8
	SD			2.2	1.8
	Median			12.0	12.0
	Min			12	12
	Max			17	17
	As soon as they are diagnosed	2 (100.0%)	5 (62.5%)	7 (43.8%)	29 (59.2%)
	When a patient reports eye/vision problems		2 (25.0%)		2 (4.1%)
	No standard practice, timing varies case by case				1 (2.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Don't know/Not sure				2 (4.1%)
	Other				2 (4.1%)
	Total valid response	2 (100.0%)	8 (100.0%)	16 (100.0%)	49 (100.0%)
	Total missing		4	4	22
What is the protocol in your main practice for timing of initial eye exams for persons with diabetes - Type II?	After a predetermined number of years (numeric response) (n)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Mean				
	SD				
	Median				
	Min				
	Max				
	After a predetermined age (numeric response) (n)	1 (50.0%)	0 (0.0%)	0 (0.0%)	2 (4.1%)
	Mean	65.0			38.5
	SD				37.5
	Median	65.0			38.5
	Min	65			12
	Max	65			65
	As soon as they are diagnosed	1 (50.0%)	8 (100.0%)	14 (87.5%)	42 (85.7%)
	No standard practice, timing varies case by case				1 (2.0%)
	Don't know/Not sure				2 (4.1%)
	Other				2 (4.1%)
	Total valid response	2 (100.0%)	8 (100.0%)	16 (100.0%)	49 (100.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total missing		4	4	22

#### PT 2.15

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the protocol in your main practice for timing of follow-up eye examinations for persons with diabetes?	Once a year	1 (50.0%)	8 (100.0%)	12 (75.0%)	41 (82.0%)
	Every two years	1 (50.0%)	0 (0.0%)	1 (6.3%)	2 (4.0%)
	Only when symptoms are present	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (2.0%)
	Other	0 (0.0%)	0 (0.0%)	3 (18.8%)	4 (8.0%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (4.0%)
	Total Valid Response	2 (100.0%)	8 (100.0%)	16 (100.0%)	50 (100.0%)
	Total missing	0	4	4	21

#### PT 2.16

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you screen patients for DR?	Yes		7 (87.5%)	11 (68.8%)	39 (78.0%)
	No	2 (100.0%)	1 (12.5%)	5 (31.3%)	11 (22.0%)
	Total valid response	2 (100.0%)	8 (100.0%)	16 (100.0%)	50 (100.0%)
	Total missing		4	4	21
Where do you screen patients?	In clinic		3 (42.9%)	2 (18.2%)	24 (63.2%)



Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Outreach		3 (42.9%)	7 (63.6%)	14 (36.8%)
	Other		2 (28.6%)	3 (27.3%)	6 (15.8%)
	Total valid response		7 (100.0%)	11 (100.0%)	38 (100.0%)
	Total missing	2	5	9	33

#### PT 2.17

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What patient characteristics influence your vision care and/or vision referrals?	Diabetes duration	1 (50.0%)	4 (50.0%)	8 (50.0%)	28 (56.0%)
	Patient's age	0 (0.0%)	2 (25.0%)	5 (31.3%)	20 (40.0%)
	Patient's gender	0 (0.0%)	0 (0.0%)	2 (12.5%)	5 (10.0%)
	Presence of comorbidities such as hypertension, etc.	0 (0.0%)	1 (12.5%)	8 (50.0%)	25 (50.0%)
	High glucose levels	0 (0.0%)	3 (37.5%)	6 (37.5%)	23 (46.0%)
	Patient adherence to recommendations	0 (0.0%)	0 (0.0%)	2 (12.5%)	6 (12.0%)
	None of the above	0 (0.0%)	3 (37.5%)	3 (18.8%)	8 (16.0%)
	Not applicable	1 (50.0%)	1 (12.5%)	4 (25.0%)	10 (20.0%)
	Total valid response	2 (100.0%)	8 (100.0%)	16 (100.0%)	50 (100.0%)
	Total missing	0	4	4	21

#### PT 2.18

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What are the major barriers to optimizing eye health faced by patients with diabetes in your main practice?	Cost of care	0 (0.0%)	1 (14.3%)	3 (18.8%)	6 (12.5%)
	Proximity to care	1 (50.0%)	2 (28.6%)	3 (18.8%)	7 (14.6%)
	Long wait time for appointment	0 (0.0%)	1 (14.3%)	3 (18.8%)	7 (14.6%)
	Long wait time on the day of visit	1 (50.0%)	0 (0.0%)	3 (18.8%)	4 (8.3%)
	Referral process	0 (0.0%)	1 (14.3%)	6 (37.5%)	11 (22.9%)
	Recommended treatments are not available	0 (0.0%)	1 (14.3%)	1 (6.3%)	2 (4.2%)
	Lack of knowledge and/or awareness	0 (0.0%)	2 (28.6%)	10 (62.5%)	21 (43.8%)
	Patients fear of treatment/results	0 (0.0%)	3 (42.9%)	8 (50.0%)	19 (39.6%)
	Patients they are a burden on family/friends	0 (0.0%)	0 (0.0%)	3 (18.8%)	6 (12.5%)
	Limited access to diabetes specialists	0 (0.0%)	1 (14.3%)	2 (12.5%)	5 (10.4%)
	Limited access to eye specialists	0 (0.0%)	0 (0.0%)	1 (6.3%)	2 (4.2%)
	Patients feel eye complications are unlikely	0 (0.0%)	2 (28.6%)	7 (43.8%)	18 (37.5%)
	Patients feel eye exams are not important	0 (0.0%)	2 (28.6%)	5 (31.3%)	18 (37.5%)
	Patients have competing responsibilities and priorities	0 (0.0%)	4 (57.1%)	9 (56.3%)	23 (47.9%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Clinic too small or lack necessary equipment/staff	0 (0.0%)	1 (14.3%)	3 (18.8%)	5 (10.4%)
	Other	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (4.2%)
	Total valid response	2 (100.0%)	7 (100.0%)	16 (100.0%)	48 (100.0%)
	Total missing	0	5	4	23

#### PT 2.19

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In your main practice, are patients contacted with reminders for general follow-up appointments?	Yes	1 (50.0%)	7 (87.5%)	12 (75.0%)	41 (82.0%)
	No	1 (50.0%)	1 (12.5%)	2 (12.5%)	5 (10.0%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	2 (12.5%)	4 (8.0%)
	Total Valid Response	2 (100.0%)	8 (100.0%)	16 (100.0%)	50 (100.0%)
	Total missing	0	4	4	21

#### PT 2.20

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you share relevant patient information with other health care professionals involved in the patients care e.g. his or her general practitioner, ophthalmologist, podiatrist?	Yes	1 (50.0%)	8 (100.0%)	14 (87.5%)	43 (86.0%)
	No	1 (50.0%)	0 (0.0%)	1 (6.3%)	4 (8.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	1 (6.3%)	3 (6.0%)
	Total Valid Response	2 (100.0%)	8 (100.0%)	16 (100.0%)	50 (100.0%)
	Total missing	0	4	4	21

### PT 3.1

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Please indicate your age:	18 - 29			1 (6.3%)	4 (8.0%)
	30 - 39	1 (50.0%)	3 (37.5%)	3 (18.8%)	17 (34.0%)
	40 - 49	1 (50.0%)	3 (37.5%)	5 (31.3%)	13 (26.0%)
	50 - 59		2 (25.0%)	6 (37.5%)	13 (26.0%)
	60 - 69			1 (6.3%)	3 (6.0%)
	Total valid response	2 (100.0%)	8 (100.0%)	16 (100.0%)	50 (100.0%)
	Total missing		4	4	21
What is your gender?	Female		4 (50.0%)	7 (43.8%)	23 (46.9%)
	Male	2 (100.0%)	4 (50.0%)	9 (56.3%)	26 (53.1%)
	Total valid response	2 (100.0%)	8 (100.0%)	16 (100.0%)	49 (100.0%)
	Total missing		4	4	22
What is your highest level of education completed?	Secondary School				1 (2.0%)
	College/University		2 (25.0%)	2 (12.5%)	14 (28.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Graduate or advanced degree (e.g. PhD, MD, etc)	2 (100.0%)	6 (75.0%)	14 (87.5%)	35 (70.0%)
	Total valid response	2 (100.0%)	8 (100.0%)	16 (100.0%)	50 (100.0%)
	Total missing		4	4	21

#### PT 4.1

Question	Response	Ophthalmologist
What percentage of your patients have diabetic retinopathy	Total valid numeric response (n)	15
	Mean	46.3
	SD	27.8
	Median	50.0
	Min	0
	Max	100
	Total missing	5

#### PT 4.2

Question	Response	Ophthalmologist
What percentage of your patients have diabetic macular edema?	Total valid numeric response (n)	15
	Mean	31.0
	SD	26.0
	Median	20.0
	Min	0
	Max	70
	Total missing	5

#### PT 4.3

Question	Response	Ophthalmologist
What is the average amount of time your patients wait for an appointment to be screened for diabetic eye disease in your practice?	Less than 1 week	0 (0.0%)

Question	Response	Ophthalmologist
	More than 1 week but less than 1 month	5 (35.7%)
	More than 1 month but less than 2 months	4 (28.6%)
	More than 2 months but less than 3 months	3 (21.4%)
	Do not take appointment	1 (7.1%)
	Other	1 (7.1%)
	Don't know/Not sure	0 (0.0%)
	Total Valid Response	14 (100.0%)
	Total missing	6

#### PT 4.4

Question	Response	Ophthalmologist
From the time a patient is screened, what is the average length of time he/she waits for diagnosis?	Less than 1 week	3 (21.4%)
	More than 1 week but less than 1 month	5 (35.7%)
	More than 1 month but less than 2 months	4 (28.6%)
	Other	1 (7.1%)
	Don't know/Not sure	0 (0.0%)
	There is not wait, diagnosis is given when screened	1 (7.1%)
	Total Valid Response	14 (100.0%)
	Total missing	6

#### PT 4.5

Type of Treatment	Question	Response/time	Ophthalmologist
Laser photocoagulation	Is the treatment available?	Available within country	6 (40.0%)
		Available locally	7 (46.7%)
		Available in practice	13 (86.7%)
		Not available	

Type of Treatment	Question	Response/time	Ophthalmologist
		Total valid response	15 (100.0%)
		Total missing	5
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	13 (92.9%)
		Mean	2.8
		SD	2.1
		Median	3.0
		Min	0
		Max	6
		Don't know/not sure	1 (7.1%)
		Not applicable	
		Total valid response	14 (100.0%)
		Total missing	6
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	12 (85.7%)
		Mean	2.3
		SD	1.7
		Median	2.0
		Min	0
		Max	4
		Don't know/not sure	2 (14.3%)
		Not applicable	
		Total valid response	14 (100.0%)
		Total missing	6
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	8 (66.7%)
		Mean	3.1
		SD	2.5

Type of Treatment	Question	Response/time	Ophthalmologist
		Median	3.0
		Min	0
		Max	8
		Don't know/not sure	3 (25.0%)
		Not applicable	1 (8.3%)
		Total valid response	12 (100.0%)
		Total missing	8
Anti-VEGF therapies	Is the treatment available?	Available within country	5 (33.3%)
		Available locally	7 (46.7%)
		Available in practice	13 (86.7%)
		Not available	
		Total valid response	15 (100.0%)
		Total missing	5
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	13 (92.9%)
		Mean	3.1
		SD	1.6
		Median	4.0
		Min	1
		Max	6
		Don't know/not sure	1 (7.1%)
		Not applicable	
		Total valid response	14 (100.0%)
		Total missing	6
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	12 (85.7%)
		Mean	2.7



Type of Treatment	Question	Response/time	Ophthalmologist
		SD	1.3
		Median	2.5
		Min	1
		Max	4
		Don't know/not sure	2 (14.3%)
		Not applicable	
		Total valid response	14 (100.0%)
		Total missing	6
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	8 (66.7%)
		Mean	3.4
		SD	1.2
		Median	4.0
		Min	1
		Max	4
		Don't know/not sure	3 (25.0%)
		Not applicable	1 (8.3%)
		Total valid response	12 (100.0%)
		Total missing	8
	Intravitreal steroid	Is the treatment available?	Available within country
		Available locally	5 (33.3%)
		Available in practice	11 (73.3%)
		Not available	1 (6.7%)
		Total valid response	15 (100.0%)
		Total missing	5
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	11 (84.6%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Mean	2.8
		SD	2.1
		Median	2.0
		Min	0
		Max	6
		Don't know/not sure	1 (7.7%)
		Not applicable	1 (7.7%)
		Total valid response	13 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	9 (75.0%)
		Mean	2.4
		SD	1.6
		Median	2.0
		Min	0
		Max	4
		Don't know/not sure	2 (16.7%)
		Not applicable	1 (8.3%)
		Total valid response	12 (100.0%)
		Total missing	8
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	5 (45.5%)
		Mean	7.2
		SD	4.6
		Median	6.0
		Min	2
		Max	12
		Don't know/not sure	3 (27.3%)
		Not applicable	3 (27.3%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Total valid response	11 (100.0%)
		Total missing	9
Uncomplicated vitrectomy	Is the treatment available?	Available within country	5 (33.3%)
		Available locally	8 (53.3%)
		Available in practice	9 (60.0%)
		Not available	
		Total valid response	15 (100.0%)
		Total missing	5
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	11 (84.6%)
		Mean	5.0
		SD	3.1
		Median	4.0
		Min	1
		Max	12
		Don't know/not sure	2 (15.4%)
		Not applicable	
		Total valid response	13 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	10 (76.9%)
		Mean	4.3
		SD	2.4
		Median	4.0
		Min	1
		Max	8
		Don't know/not sure	3 (23.1%)

Type of Treatment	Question	Response/time	Ophthalmologist
	What is the average amount of time your patients wait for a second treatment?(weeks)	Not applicable	
		Total valid response	13 (100.0%)
		Total missing	7
		Total valid numeric response (n)	4 (33.3%)
		Mean	4.3
		SD	2.6
		Median	3.5
		Min	2
		Max	8
		Don't know/not sure	4 (33.3%)
		Not applicable	4 (33.3%)
		Total valid response	12 (100.0%)
		Total missing	8
Complex vitreo-retinal surgery	Is the treatment available?	Available within country	5 (33.3%)
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Available locally	9 (60.0%)
		Available in practice	8 (53.3%)
		Not available	
		Total valid response	15 (100.0%)
		Total missing	5
		Total valid numeric response (n)	12 (85.7%)
		Mean	4.6
		SD	3.1
		Median	4.0
		Min	1
		Max	12

Type of Treatment	Question	Response/time	Ophthalmologist
		Don't know/not sure	2 (14.3%)
		Not applicable	
		Total valid response	14 (100.0%)
		Total missing	6
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	10 (76.9%)
		Mean	3.7
		SD	2.5
		Median	3.0
		Min	1
		Max	8
		Don't know/not sure	3 (23.1%)
		Not applicable	
		Total valid response	13 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	4 (33.3%)
		Mean	3.8
		SD	2.9
		Median	2.5
		Min	2
		Max	8
		Don't know/not sure	4 (33.3%)
		Not applicable	4 (33.3%)
		Total valid response	12 (100.0%)
		Total missing	8

#### PT 4.6

Question	Response	Ophthalmologist
Do you personally administer treatment for diabetic retinopathy?	Yes	11 (91.7%)
	No	1 (8.3%)
	Total valid response	12 (100.0%)
	Total missing	8
Who administer it?	Another provider in your practice	
	Refer to a provider at another facility	
	Other	1 (100.0%)
	Total valid response	1 (100.0%)
	Total missing	19

#### PT 4.7

Question	Response	Ophthalmologist
Do any of the following influence how you treat diabetic retinopathy or diabetic macular edema?	Diabetes duration	5 (45.5%)
	Patient's age	2 (18.2%)
	Patient's gender	
	Presence of comorbidities such as hypertension, etc.	4 (36.4%)
	High glucose levels	4 (36.4%)
	Patient adherence to recommendations	3 (27.3%)
	None of the above	4 (36.4%)
	Not applicable	1 (9.1%)
	Total valid response	11 (100.0%)
	Total missing	9

#### PT 4.8

Question	Response	Ophthalmologist
Do you treat diabetic retinopathy and diabetic macular edema based on:	Visual outcome	0 (0.0%)
	Anatomical outcomes	1 (8.3%)

Question	Response	Ophthalmologist
	Both	10 (83.3%)
	Other	1 (8.3%)
	Total Valid Response	12 (100.0%)
	Total missing	8

#### PT 4.9

Question	Response	Ophthalmologist
How are your patients with diabetes screened for diabetic eye disease?	Fundoscopy undilated	
	Fundoscopy dilated	7 (58.3%)
	Retinal photo	8 (66.7%)
	Optical Coherence Tomography	4 (33.3%)
	Fluorescein Angiography	
	Other	1 (8.3%)
	Total valid response	12 (100.0%)
	Total missing	8

#### PT 4.10

Question	Response	Ophthalmologist
In your opinion, do the majority of your patients present:	In time for screening	8 (66.7%)
	When visual problems have already occurred	3 (25.0%)
	Too late for effective treatment	1 (8.3%)
	Total Valid Response	12 (100.0%)
	Total missing	8

#### PT 4.11

Question	Response	Ophthalmologist
Have you received training specifically on treatment and diagnosis of diabetic retinopathy and/or clinically significant diabetic macular edema?	Yes	11 (91.7%)
	No	1 (8.3%)
	Total valid response	12 (100.0%)

Question	Response	Ophthalmologist
	Total missing	8
If yes, When was your last training?	Five or more years ago	3 (27.3%)
	Greater than 1 year ago but less than 5 years	
	Within the past year	8 (72.7%)
	Total valid response	11 (100.0%)
	Total missing	9

**PT 4.12**

Question	Response	Ophthalmologist
Would you be interested in online education and certification on DME, Angiogenesis and Anti-VEGF therapies?	Yes	6 (50.0%)
	No	6 (50.0%)
	Total Valid Response	12 (100.0%)
	Total missing	8

**PT 4.13**

Question	Response	Ophthalmologist
How is outreach for screening for diabetic eye disease done in your main practice?	Health fairs for all	0 (0.0%)
	Health fairs for people with diabetes	1 (8.3%)
	Mobile screening centers	4 (33.3%)
	At vision centers	1 (8.3%)
	Other	5 (41.7%)
	Not done	1 (8.3%)
	Don't know/Not sure	1 (8.3%)
	Total valid response	12 (100.0%)
	Total missing	8

**PT 4.14**



Question	Response	Ophthalmologist
What do you perceive to be the greatest challenges for improving patient outcomes in diabetic eye disease?	Reimbursement/restrictions on approved therapy	2 (16.7%)
	Late diagnosis	4 (33.3%)
	Referral pathways	5 (41.7%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	6 (50.0%)
	No universal guidelines on referral/screening	3 (25.0%)
	No universal guidelines on how to treat	1 (8.3%)
	No universal guideline on when to treat	1 (8.3%)
	Government/insurance not able to cover patient costs	1 (8.3%)
	Multi-disciplinary team integration is poor	5 (41.7%)
	Ineffective screening services	1 (8.3%)
	Other	3 (25.0%)
	Total valid response	12 (100.0%)
	Total missing	8

#### EXP 1

Question	Response	Without DED (%)	With DED (%)	With DME (%)
Which of the following complications of diabetes do you have?	Vision loss	8 (12.9%)	14 (35.9%)	2 (33.3%)
	Cardiovascular disease/Stroke	4 (6.5%)	7 (17.9%)	0 (0.0%)
	Irritable bowel disease	4 (6.5%)	6 (15.4%)	0 (0.0%)
	Kidney disease	1 (1.6%)	5 (12.8%)	0 (0.0%)
	Loss of feeling in hands or toes (neuropathy)	7 (11.3%)	12 (30.8%)	0 (0.0%)
	Amputation	0 (0.0%)	1 (2.6%)	0 (0.0%)
	Other	3 (4.8%)	10 (25.6%)	0 (0.0%)
	None	38 (61.3%)	15 (38.5%)	2 (33.3%)

Question	Response	Without DED (%)	With DED (%)	With DME (%)
	Don't know/Not sure	6 (9.7%)	0 (0.0%)	2 (33.3%)
	Total Valid Response	62 (100.0%)	39 (100.0%)	6 (100.0%)
	Total missing	24	3	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

NB [4]: Percentages within groups are calculated from non-missing data for that question.

## EXP 2

Limitations	Without DED n (%)	With DED n (%)	With DME n (%)
Limited in any way in any activities because of impairment or health problem	16 (28.6%)	14 (35.0%)	1 (16.7%)
Impairment or health problem			
Diabetes	10 (66.7%)	10 (71.4%)	1 (100.0%)
Walking problem	6 (42.9%)	12 (85.7%)	0 (0.0%)
Back or neck problem	6 (42.9%)	8 (57.1%)	0 (0.0%)
Arthritis/rheumatism	5 (41.7%)	5 (35.7%)	0 (0.0%)
Eye/vision problem	4 (30.8%)	9 (64.3%)	0 (0.0%)
Heart problem	3 (25.0%)	4 (28.6%)	0 (0.0%)
Mental or emotional health	3 (25.0%)	6 (46.2%)	0 (0.0%)
Lung/breathing problem	2 (18.2%)	2 (14.3%)	0 (0.0%)
Fractures, bone/joint injury	2 (16.7%)	3 (21.4%)	0 (0.0%)
Hypertension/high blood pressure	2 (16.7%)	5 (35.7%)	0 (0.0%)
Hearing problem	1 (8.3%)	2 (14.3%)	0 (0.0%)
Stroke problem	1 (8.3%)	4 (28.6%)	0 (0.0%)
Cancer	0 (0.0%)	1 (7.1%)	0 (0.0%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

NB [4]: Percentages within groups are calculated from non-missing data for that question.

## EXP 3

Health Status	Without DED (%)	With DED (%)	With DME (%)
Self-rated health: Good	31 (56.4%)	23 (56.1%)	5 (83.3%)
Self-rated health: Poor	24 (43.6%)	18 (43.9%)	1 (16.7%)
Physically unhealthy days	27 (57.4%)	18 (50.0%)	0 (0.0%)

Health Status	Without DED (%)	With DED (%)	With DME (%)
Mentally unhealthy days	21 (44.7%)	17 (50.0%)	1 (20.0%)
Unhealthy days	35 (72.9%)	25 (71.4%)	1 (20.0%)
Activity limitation days	15 (39.5%)	13 (52.0%)	1 (100.0%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

#### EXP 4

Item	Response	All respondents	Respondents with Type I diabetes	Respondents with Type II diabetes
How do you manage your diabetes?	Diet	63 (51.2%)	27 (37.0%)	35 (71.4%)
	Oral medicine	48 (39.0%)	8 (11.0%)	40 (81.6%)
	Exercise	41 (33.3%)	22 (30.1%)	19 (38.8%)
	Insulin	87 (70.7%)	72 (98.6%)	15 (30.6%)
	Natural/Herbal medicine	2 (1.6%)	1 (1.4%)	1 (2.0%)

NB [1]: Percentages within groups are calculated from non-missing data for that question.

#### EXP 5.1

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	28 (47.5%)	23 (56.1%)	4 (66.7%)
	Working without pay at home (e.g. housework, farming)	2 (3.4%)	1 (2.4%)	0 (0.0%)
	Volunteering	5 (8.5%)	1 (2.4%)	0 (0.0%)
	Retired	15 (25.4%)	10 (24.4%)	1 (16.7%)
	Student	3 (5.1%)	0 (0.0%)	0 (0.0%)
	Not working	6 (10.2%)	6 (14.6%)	1 (16.7%)
	Total Valid Response	59 (100.0%)	41 (100.0%)	6 (100.0%)
	Total missing	27	1	0
Do you receive assistance from the government?	Income assistance	5 (8.5%)	7 (17.1%)	0 (0.0%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	Medical assistance	9 (15.3%)	11 (26.8%)	0 (0.0%)
	Food assistance	1 (1.7%)	0 (0.0%)	0 (0.0%)
	Housing assistance	5 (8.5%)	2 (4.9%)	0 (0.0%)
	Pension assistance	3 (5.1%)	3 (7.3%)	0 (0.0%)
	None of the above	45 (76.3%)	27 (65.9%)	5 (100.0%)
	Total valid response	59 (100.0%)	41 (100.0%)	5 (100.0%)
	Total missing	27	1	1
Did you have trouble paying for food at anytime during the past year?	Yes	8 (13.6%)	5 (12.2%)	0 (0.0%)
	No	51 (86.4%)	36 (87.8%)	6 (100.0%)
	Total Valid Response	59 (100.0%)	41 (100.0%)	6 (100.0%)
	Total missing	27	1	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

NB [4]: Percentages within groups are calculated from non-missing data for that question.

## EXP 5.2: Age group 18-39 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	11 (73.3%)	9 (81.8%)	0 (0.0%)
	Working without pay at home (e.g. housework, farming)	0 (0.0%)	1 (9.1%)	0 (0.0%)
	Volunteering	1 (6.7%)	0 (0.0%)	0 (0.0%)
	Student	3 (20.0%)	0 (0.0%)	0 (0.0%)
	Not working	0 (0.0%)	1 (9.1%)	0 (0.0%)
	Total Valid Response	15 (100.0%)	11 (100.0%)	0 (0.0%)
	Total missing	8	0	0
Do you receive assistance from the government?	Income assistance	0 (0.0%)	1 (9.1%)	0 (0.0%)
	Medical assistance	1 (6.7%)	1 (9.1%)	0 (0.0%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	None of the above	14 (93.3%)	9 (81.8%)	0 (0.0%)
	Total valid response	15 (100.0%)	11 (100.0%)	0
	Total missing	8	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	3 (20.0%)	2 (18.2%)	0 (0.0%)
	No	12 (80.0%)	9 (81.8%)	0 (0.0%)
	Total Valid Response	15 (100.0%)	11 (100.0%)	0 (0.0%)
	Total missing	8	0	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

### EXP 5.3: Age group 40-59 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	14 (53.8%)	13 (76.5%)	4 (80.0%)
	Working without pay at home (e.g. housework, farming)	2 (7.7%)	0 (0.0%)	0 (0.0%)
	Volunteering	3 (11.5%)	0 (0.0%)	0 (0.0%)
	Retired	3 (11.5%)	1 (5.9%)	0 (0.0%)
	Not working	4 (15.4%)	3 (17.6%)	1 (20.0%)
	Total Valid Response	26 (100.0%)	17 (100.0%)	5 (100.0%)
	Total missing	11	1	0
Do you receive assistance from the government?	Income assistance	4 (15.4%)	3 (17.6%)	0 (0.0%)
	Medical assistance	7 (26.9%)	3 (17.6%)	0 (0.0%)
	Food assistance	1 (3.8%)	0 (0.0%)	0 (0.0%)
	Housing assistance	4 (15.4%)	1 (5.9%)	0 (0.0%)
	Pension assistance	1 (3.8%)	0 (0.0%)	0 (0.0%)
	None of the above	16 (61.5%)	12 (70.6%)	4 (100.0%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	Total valid response	26 (100.0%)	17 (100.0%)	4 (100.0%)
	Total missing	11	1	1
Did you have trouble paying for food at anytime during the past year?	Yes	3 (11.5%)	2 (11.8%)	0 (0.0%)
	No	23 (88.5%)	15 (88.2%)	5 (100.0%)
	Total Valid Response	26 (100.0%)	17 (100.0%)	5 (100.0%)
	Total missing	11	1	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

#### EXP 5.4: Age group 60-79 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	3 (16.7%)	1 (9.1%)	0 (0.0%)
	Volunteering	1 (5.6%)	1 (9.1%)	0 (0.0%)
	Retired	12 (66.7%)	7 (63.6%)	1 (100.0%)
	Not working	2 (11.1%)	2 (18.2%)	0 (0.0%)
	Total Valid Response	18 (100.0%)	11 (100.0%)	1 (100.0%)
	Total missing	8	0	0
Do you receive assistance from the government?	Income assistance	1 (5.6%)	3 (27.3%)	0 (0.0%)
	Medical assistance	1 (5.6%)	7 (63.6%)	0 (0.0%)
	Housing assistance	1 (5.6%)	1 (9.1%)	0 (0.0%)
	Pension assistance	2 (11.1%)	3 (27.3%)	0 (0.0%)
	None of the above	15 (83.3%)	4 (36.4%)	1 (100.0%)
	Total valid response	18 (100.0%)	11 (100.0%)	1 (100.0%)
	Total missing	8	0	0

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Did you have trouble paying for food at anytime during the past year?	Yes	2 (11.1%)	1 (9.1%)	0 (0.0%)
	No	16 (88.9%)	10 (90.9%)	1 (100.0%)
	Total Valid Response	18 (100.0%)	11 (100.0%)	1 (100.0%)
	Total missing	8	0	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

#### EXP 5.5: Age group 80+ years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Retired	0 (0.0%)	2 (100.0%)	0 (0.0%)
	Total Valid Response	0 (0.0%)	2 (100.0%)	0 (0.0%)
Do you receive assistance from the government?	None of the above	0 (0.0%)	2 (100.0%)	0 (0.0%)
	Total valid response	0	2 (100.0%)	0
	Total missing	0	0	0
Did you have trouble paying for food at anytime during the past year?	No	0 (0.0%)	2 (100.0%)	0 (0.0%)
	Total Valid Response	0 (0.0%)	2 (100.0%)	0 (0.0%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

#### EXP 6

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
All respondents		134 (100%)	75 (56.0%)	56 (41.8%)	42 (31.3%)	6 (4.5%)
Gender	Male	36 (34.3%)	18 (50.0%)	18 (50.0%)	12 (33.3%)	2 (5.6%)
	Female	69 (65.7%)	48 (69.6%)	21 (30.4%)	29 (42.0%)	3 (4.3%)
	Total Missing	29	9	17	1	1

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
Age	18-39 yrs	34 (25.4%)	30 (88.2%)	3 (8.8%)	11 (32.4%)	0 (0.0%)
	40-59 yrs	60 (44.8%)	30 (50.0%)	29 (48.3%)	18 (30.0%)	5 (8.3%)
	60-79 yrs	38 (28.4%)	15 (39.5%)	22 (57.9%)	11 (28.9%)	1 (2.6%)
	80 yrs and over	2 (1.5%)	0 (0.0%)	2 (100.0%)	2 (100.0%)	0 (0.0%)
Time since diagnosis	Within the last year	7 (5.3%)	1 (14.3%)	5 (71.4%)	1 (14.3%)	0 (0.0%)
	1 - 5 years ago	24 (18.3%)	9 (37.5%)	15 (62.5%)	1 (4.2%)	2 (8.3%)
	6 - 10 years ago	19 (14.5%)	5 (26.3%)	14 (73.7%)	4 (21.1%)	0 (0.0%)
	11 - 15 years ago	22 (16.8%)	12 (54.5%)	10 (45.5%)	7 (31.8%)	0 (0.0%)
	16 - 20 years ago	13 (9.9%)	7 (53.8%)	6 (46.2%)	6 (46.2%)	0 (0.0%)
	21 years ago or longer	46 (35.1%)	41 (89.1%)	5 (10.9%)	23 (50.0%)	4 (8.7%)
	Total Missing	3	0	1	0	0
Control of Diabetes	Controlled	80 (69.6%)	48 (60.0%)	32 (40.0%)	28 (35.0%)	5 (6.3%)
	Not controlled	32 (27.8%)	22 (68.8%)	10 (31.3%)	14 (43.8%)	0 (0.0%)
	Don't know/Not sure	3 (2.6%)	1 (33.3%)	2 (66.7%)	0 (0.0%)	1 (33.3%)
	Total Missing	19	4	12	0	0

NB [1]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [2]: DME = respondents with DME = "Yes".

NB [3]: Percentages within groups are calculated from non-missing data for that question.

## EXP 7

Question	Response	With DED n (%)	With DME n (%)
Have you had any treatment for diabetic eye disease?	Yes	12 (29.3%)	5 (100.0%)
	No	28 (68.3%)	0 (0.0%)



Question	Response	With DED n (%)	With DME n (%)
	Don't know/Not sure	1 (2.4%)	0 (0.0%)
	Total valid response	41 (100.0%)	5 (100.0%)
	Total missing	1	1
What treatment did you receive?	Laser	12 (100.0%)	4 (80.0%)
	Anti-VEGF	1 (8.3%)	1 (20.0%)
	Surgery	3 (25.0%)	1 (20.0%)
	Other	1 (8.3%)	1 (20.0%)
	Total valid response	12 (100.0%)	5 (100.0%)
	Total missing	30	1
Did you complete the treatment?	Yes	8 (66.7%)	1 (20.0%)
	Still receiving treatment	4 (33.3%)	3 (60.0%)
	Don't know/Not sure	0 (0.0%)	1 (20.0%)
	Total valid response	12 (100.0%)	5 (100.0%)
	Total missing	30	1
Do you feel that the treatment worked?	Yes, and vision improved	5 (41.7%)	2 (40.0%)
	Yes, but vision stayed the same	5 (41.7%)	2 (40.0%)
	No	1 (8.3%)	0 (0.0%)
	Still waiting to know	1 (8.3%)	0 (0.0%)
	Don't know/Not sure	0 (0.0%)	1 (20.0%)
	Total valid response	12 (100.0%)	5 (100.0%)
	Total missing	30	1
What is/are the reason(s) that you did not complete the treatment?	Total valid response	0 (0.0%)	0 (0.0%)
	Total missing	42	6
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	25 (89.3%)	0 (0.0%)
	Treatment would not be effective	1 (3.6%)	0 (0.0%)



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